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Cultivating Our Human Resources for Health in Tomorrow's World*

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I WANT to take this opportunity to express to you, the members of this Association, my appreciation of the honor that you have done me in making me your President for this past year. To have been so chosen by one's colleagues is the highest honor that could come to any of us here. That it should have come to me means much to me personally, but even more because of what it means in the terms of the concern of this Association for the better provision of medical care to the people and for the health of children in particular. I am happy that this concern has been expressing itself recently through the activities of our alert Committee on Medical Care which has taken the lead in the current discussions on the establishment of a new section on medical care and through the action of the Executive Board in setting up a new Committee on Child Health. Both of these actions broaden the horizons of the Association. They may well be reflected ultimately in great good to all our people. They help us take a long look ahead.

A few days ago my attention was called to a recently published book, *Our Plundered Planet,* by Fairfield Osborn, that opens as follows: "Yesterday morning more than 175,000 mothers looked down upon the vague uncomprehending eyes of their new-born babes. Today a similar number are doing likewise, and tomorrow and the next day. . . . These are the children of the earth, each day in every land they come, insistently in such numbers, the daily host reproducing the human species the world over. . . . So great a company of newborn children . . . become day after day a living part of the environment into which each of them has come. Its strength will be theirs, and its weaknesses." This, in a way, is the core of what I want to say tonight.

I have chosen as my subject on this occasion "Cultivating Our Human Resources for Health in Tomorrow's World." I have chosen it because it expresses the need for a dynamic approach to our problem of health, because it directs attention to the role of positive health in the lives of people, especially in the lives of children; because it implies that the growth of an idea, or a program of action, like the

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growth of a plant, an animal, or a child, calls for thoughtful, imaginative preparation, for careful fostering, for fertilization with the elements essential for its development. I have chosen this subject because it takes us beyond limits of our own national life and suggests that what we do for the health of our children and youth today will influence the whole world tomorrow.

We cannot, and I do not believe we want to, escape from the principles that underlie this concept. You will bear with me, I know, when I press upon you the urgency and the necessity of focusing national attention on action in behalf of children. I do this without apology, for the basic principles underlying our total health program are essentially the same whether we are considering children or the total population. I believe you will agree with me when I say that what we do for the child can be taken as a fair measure of social progress.

Most of us, I believe, are at last aware that we are living in a period of great change; in a new age growing out of man's great skill in discovering facts about the physical and biological world and his ingenuity in applying them. We cannot escape from the fact that knowledge in this realm has surged far ahead of our knowledge in the social sciences, far ahead of our knowledge of the nature of man, himself. Mankind finds itself with many tools that may be used constructively or destructively for the welfare of man. Enormous benefits to our health, to our social and economic status have accrued or may accrue. So too out of scientific advance may come our destruction. What we have failed to grasp is that the use to which these tools may be put by man will be determined by his social philosophy, by his emotional reactions and behavior, and that it is to a large extent a matter of human relations.

The situation in which we find ourselves is full of confusions rising out of a multitude of ideas and opinions and too little and too poorly disseminated knowledge of why we believe as we do. One thing is clear. We must increase still more our knowledge in this field of human relations—and having increased it, we must transmit it, we must use it; channels for its communication must be opened and free flowing. We must produce a whole new generation of young people—people who are free to explore and to learn, to base action on knowledge, to weigh, understand, and interpret human behavior, to find ways of overcoming the aggressive attitudes and actions growing out of our culture, and the unreasoned fears built into us in our childhood, ways of living harmoniously together.

Man has shown that he can build a Tennessee Valley Authority. He can dam up the headwaters of a great river to control floods; he can free and use the waters to produce power. He can irrigate the dry lands. He can bring health and economic prosperity to a vast number of people. He has learned that he must stop erosion of the soil and the destruction of forests back of the dams if the individual farm is to prosper, if water is to be kept in the soil, and if the headwaters back in the hills are to grow in size and strength to form the pools of power above the dams. He has learned that if the land is to be productive he must nurture it, he must tend it carefully and wisely, he must fertilize it.

So must our health programs develop from cultivation at the grass roots. Upon the nurture we give to local health activities will depend the vigor of our state and national health services. Upon the nurture we give to man in his infancy and early childhood, upon the opportunities and guidance we give him in his adolescence and youth, upon the strength we develop in the relation-

ship of parent to infant, parent to child, child to child will depend to a great extent what man will be like when he comes to maturity. In a very real sense the child is the touchstone. What we do for him we do for all mankind; what we do for adults, we also do for children.

So far, however our advances in improving health have come mostly through the flow of new knowledge from the laboratories of the physical and biological sciences; less from the social sciences. A substantial start has been made in relating the physical health of individuals to social factors, in cultivating the human resources for health—what Richard Cabot called the social component of medicine—as well as those of the physical environment. The roots of our knowledge spread out in many directions and go back to such great men as Charles Darwin, Edwin Chadwick, Abraham Jacobi, William James, Adolf Meyer, Sigmund Freud, and many others. Many of us are aware of the relationship between the somatic and the psychological components of illness, and a variety of approaches to the study of this relationship are being explored. The public is growing more and more aware of the cost of mental disease in terms of human happiness and productiveness.

During the past half century we have acquired a vast body of knowledge on how to assure good nutrition and normal physical growth of children and to control communicable diseases. Gradually this knowledge has been made a part of the everyday existence of the everyday parent. It is true that we have an ever increasing understanding of the emotional life of man and of why children grow to maturity with behavior patterns that bring about individual and group conflicts. But we are only on the threshold of knowing how to incorporate our newer knowledge of dynamic psychology into the lives of our citizens. Fortunately there is a ground swell of demand among parents for information and help on how behavior difficulties in children can be avoided, and how they and their children can be helped to understand and overcome such difficulties when they arise. Parents are aware that they need to understand more fully the elements that go into child rearing, the emotional factors as well as the physical, and the influence that their own life experiences may have on the way their children's development takes place and emotional maturity is reached.

We are all aware of these stirrings, and yet, at the same time, we are overwhelmed by the size of the task and perhaps discouraged that, even in a land of abundance such as ours, advances in making adequate health services and good medical care available to all the people come so slowly. We know that children still die or are sick or handicapped needlessly; that boys and girls still reach adolescence and maturity insecure in their individual, family, and community relationships; that they compensate for this insecurity by an abnormal degree of aggressiveness leading to overt asocial behavior, delinquency, or retreat within themselves. We know mothers still die in childbirth because expert care is not available. We know men and women still succumb to diseases or conditions that could be prevented or controlled. We know that one child in twenty will need care in a mental institution sometime during his life. Perhaps most important of all, we know that we have not yet learned how to persuade society that our medical knowledge and skills must be put to work for the benefit of all the people. We like to believe that our standard of living is high enough to provide not only food, shelter, clothing, education, recreation for families, but also

health and medical care, but when we look at the statistics, using children as a measure of social progress, we find that this is not the case.

Children are concentrated in low-income families; two-thirds live in families with total family incomes under $3,500. They are concentrated in low-income states; about one-fourth of our children are found in the southeastern states that have but 12 per cent of the national income. Farm families have nearly one-third of our children, but only about 11 per cent of our income.

These facts make it obvious that many families with children cannot afford to pay for medical care, or when they do afford it, they do so at the expense of other essential items. Even comparatively well-to-do families, those with an income of $5,000, would have difficulty meeting the costs of prolonged or serious illness. Yet today nearly 80 per cent of our families have less than $5,000 income.

I see no way out of this dilemma except by finding some way of pooling funds to meet all the costs of care. For our public health programs we already do this through the device of collecting taxes. Eventually, we must use this device in some form to provide a medical care program for all our people.

Because our children's needs are urgent, I believe that it is a public responsibility to see that all services and facilities necessary to meet these needs are made available as rapidly as possible. The only way we can be sure of doing this is through a public program, one that does not involve a "means test," one that is as freely available to mothers and children as is our public education system.

Recently at the National Health Assembly, we took stock of our national health; we assessed our progress during recent years and projected a plan of action for the ten years ahead. The proposals made in the Federal Security Administrator's report to the President include planning and action in every phase of the total health and medical service, whether by public or voluntary agency, by individual or group effort, by private practitioner or public health service. The action proposed is in the main concrete and within the realm of accomplishment in a decade. Throughout the report there is a core of concern and interest that prevention be emphasized, that human needs be served, that the healthy development of the child, including his ability to live harmoniously with his fellows, be given high priority. The proposals are based upon the premise that cultivation of our human resources is required; not just the conservation of them. We must renew the soil from which our citizens spring, look to the contours of the land producing them, plough in new patterns to stop the erosion of human strength and stability, and provide the fertilizers necessary to assure both quality and quantity in the production of the new generation.

Few would deny that our children are our most valuable resource—for on what we do for them today depends the future of our national life, the future of our world life. This is a truism that should scarcely need to be stated, so one would think. But we must state and restate it again and again. Children must become the focus of our everyday thought, of our economic and social planning, and of our domestic and foreign policy. As Grace Abbott once put it: "Children are our seed corn."

As we view the new age in which we live, and face the imperative need to start now on the task of fitting a new generation of children and youth to take their places as citizens in a peaceful world civilization, the old ideas take on new and urgent and profound meaning.

In his new book, *The Proper Study*

of Mankind, Stuart Chase points out that "it takes only twelve to fifteen years to train a new-born child to be at home in his parents' culture or any other into which he is accepted. Less than a generation would be enough to train *all the children of the world* to be citizens of the world." Obviously, as Mr. Chase himself recognizes, there would be many practical obstacles to accomplishing this so rapidly. But the ground must be cultivated for a new harvest in terms of mental health as well as physical health for the peoples of the world. At Geneva last July the World Health Organization in a resolution adopted by 54 nations put it in these terms: "The children of today represent the whole future of humanity. Maternal and child health is a problem of primary importance."

In 1934, Homer Folks, in addressing the National Conference on Economic Security, pointed out that the welfare of children—and he used the term welfare in the broadest sense—had been and must continue to be "the spearhead of social security." The history of social progress shows this to be true. It is a matter of record that many advances in the fields of medicine, public health, public welfare, education, and social security, have had their roots in the concern of parents and teachers and professional workers for the health and welfare of children. One can cite, for example, the campaign to reduce infant mortality gave impetus to public health measures to provide a pure milk supply; the early infant welfare stations were the beginnings of our modern ideas about individual health examinations and personal health conservation services; or the emergence of community health education programs from programs of health education in the schools.

In terms of our federal-state coöperative action directed toward the expansion of services to individuals through grants-in-aid in the health, medical care, or general welfare fields, the states and the nation have frequently led off with programs in behalf of children. Here one may cite the Maternity and Infancy Act of 1921, the program for medical care of crippled children in 1935, the child welfare services program in 1935, the Emergency Maternity and Infant Care Program in 1943. Each of these pioneered in new areas. Their great value lay in the fact that they broke new ground for expanding federal-state programs in health and medical care for adults as well as for children. So, too, in the field of fair labor practices. Public interest was first expressed in an Act of Congress in 1916 providing for the regulation of the employment of children through the control of interstate commerce. Although it was declared unconstitutional by the Supreme Court within a year, this law paved the way for a much broader act of Congress, the Fair Labor Practices Act of 1938, based on the same principle but applied to the employment of adults as well as children. The great programs of public assistance for aid to the aged, to dependent children, to the blind, provided for under the Social Security Act, had their origin in the early mothers' or widows' pension programs developed by the states, primarily to benefit children.

I have looked back through the sweep of our history merely to show the usefulness and the strength of approaching problems requiring public action through first providing for children. By so doing, we can tackle health problems in an age group where prevention of disease, both physical and mental, has the greatest possibilities and brings the greatest rewards in terms of human well-being and happiness, length of life, and improvement in economic status. In this new age in which we find ourselves it would seem im-

perative that this approach be continued, that top priority be given to every phase of our national program that has potentialities for saving the lives or improving the total well-being of our children.

This means establishing priorities in developing our economic and social legislation in terms of its effect on child life. It means that we must test against this standard, not only the measures we take in behalf of children, but also measures for social insurance; measures for the control of employment practices; measures affecting the production and distribution of food, clothing, housing; measures for general health service and medical care; measures to extend and strengthen our educational system, including professional and adult education; measures to enhance the development and protection of our social institutions of freedom and justice. It means bringing together the various groups of citizens and agencies concerned with children for the exchange and stimulation of ideas, for better understanding of the effect on children of various public movements, for the development of programs of investigation and action that will directly or indirectly affect child life.

I do not have to say to you that child health workers have much to gain by doing this; that they can strengthen their hands immeasurably by associating themselves with workers in the welfare, education, housing, recreation, and other fields of social action; nor do I need to impress on you the value of support from citizens' groups. The broadening of the health worker's horizon of interest and improved service to children are the rewards of such joint effort.

There are some parts of the maternal and child health program that we know how to do fairly well, but we are not doing them well enough nor extensively enough. Here we need to use power tractors rather than one-horse plowshares in turning new ground. I refer specifically to the basic preventive program in which the physician and the nurse advise the mother, either in the physician's office, in the health center, school or clinic, or at home, about the health and general care of herself, her baby, and her children. Hundreds of thousands of parents still do not have this help; tens of thousands who have some help are getting poor help; few parents get the best help we know how to give, including pediatric, nursing, dental, nutrition, and social advice; very few receive the kind of mental health advice that pediatric workers trained in child development are equipped to give.

For this basic service we need more and better trained physicians and dentists; more and better trained nurses, nutritionists, social workers, and other auxiliary workers; better equipped, better staffed, and more maternity and child health clinics where families can receive advice on mental as well as physical health; a greatly expanded health service for children of school age, including those in nursery and high schools, a service in which health and education authorities must join forces to see that the total job is done.

This basic maternal and child health program must be the instrument of local health departments if all children are to be served. It is therefore self-evident that such local health departments must completely cover our country and serve people wherever they live. No health legislation today is more important than that which will provide this administrative machinery. A bill that would do this, entitled "Local Public Health Services Act of 1948," was introduced into Congress during the last session. This bill departed from the concept, previously held by many, that responsibility for local health services must rest on the

local community first and be supported by the state and federal government as the local community failed or was unable to meet its responsibility. Under this bill federal responsibility for health programs is not residual. The total responsibility is shared by the local, state, and federal governments.

Basic maternal and child health services, however, are not enough. Many additional services are urgently needed. Mothers must have complete and adequate maternity care available to them everywhere. Infants, especially those prematurely born, all preschool children, and children of school age through adolescence must have freely available to them, wherever they live, not only preventive health services, mental as well as physical, but also all necessary care when they are sick, and child guidance and psychiatric service when required. Unless we have these services, we cannot produce a generation of young people who are fully mature and healthy in body and mind, who are emotionally secure and able to give more than is asked for, to face success and frustration with equanimity, to be self-reliant, to coöperate with their fellows, to take their place in a democratic society as thoughtful, responsible citizens concerned with the common good, and to "live harmoniously in a total changing environment." This is the kind of harvest for which we must now cultivate our soil and husband our resources.

Of course, the job of extending and improving the maternal and child health program cannot be done all at once if it is to be well done. But we can get started. There are some things we could do now, immediately, if funds were available! We could rapidly expand a wide variety of the special demonstration projects through which the states have been developing or applying new methods and procedures for providing complete preventive and treatment services to children. The wartime EMIC program was such a demonstration. The whole crippled children's service is still another example of this type of special program where the harvest in better methods of administration and procedures in rendering care has been rich. Within our present crippled children's program there are still many special problems to solve—problems in which methods and procedures must be adapted and new ones developed. Particularly we must renew our efforts to expand and improve the special programs for children with rheumatic fever, cerebral palsy, epilepsy, hearing and vision impairments. Our experience clearly shows that a multiprofessional approach to these problems is a necessity.

Certainly equally important, perhaps even more important, is the need to develop demonstration projects for complete and adequate health and medical service for the "run-of-the-mine" children of preschool and school age. This is the only way that states and communities that do not now have the complete services they need for children may discover on the basis of their own experience how these needs can be met most effectively. In all of these programs for children there must be close coöperation between the health agency and the individual or agencies in the community who render or provide medical care, whether under public or private auspices.

I do not have to tell this Association that fundamental to the expansion of any health program—and child health is no exception—is the problem of recruitment and training of the professional and technical personnel. This is a crucial issue today. In the field of child health, particular attention must be given to the dynamic psychology as well as the physiology of child development in both in-service and postgraduate training and in the basic educational programs for physicians, nurses, den-

tists, social workers, and, indeed, all auxiliary personnel.

Before I leave the subject of providing for the particular needs of children, I must point out that without an underlying structure of research and investigation into all matters related to the welfare of children and child life from which new facts will flow, the service programs will sooner or later deteriorate and fail. Medical and related biological research in the past few decades have produced facts and information that led to dramatic reductions in maternal, infant, and childhood death rates, and in sickness rates. Undoubtedly this type of research will go on. The results of the work are easily understood because they so directly affect the health of the man-in-the-street and his family. Legislative support comes relatively easily.

But there is less public and, indeed, less professional understanding when it comes to research that has to do with learning more about the causes and roots of juvenile delinquency; the effect of certain cultural patterns on child and adult behavior; the effect of artificial feeding of infants or the separation of mother and new-born infant in the hospital on the parent-baby relationship and the emotional development of the child; the pathology, physiology, treatment and education of the cerebral-palsied child; or a multitude of other problems in child life that call for inquiry by a team of research workers seeking information in the field of the social as well as the biological sciences.

Research workers in a number of fields are now calling for legislation that would make possible such multi-discipline research in child life—legislation that would provide grants-in-aid to universities and child research institutes to carry out long-term as well as short-term projects. Although basic research is needed in these fundamental social and biological sciences, carefully planned "operational" research that explores the success or failure of our methods of applying basic knowledge in child health and child welfare operating programs is also important. The proposals under discussion by these scientists would call for a National Child Research Institute which would serve as a clearinghouse for information on current research and provide a channel for the development of types of research that cannot be undertaken by any one university or research center alone, types of research that require national planning and action.

As I warned you I would, I have focused on the need for cultivating our resources for health by concentrating our attention on action for the nation's children, action that will help to fit them for citizenship in tomorrow's world. The world of adventure and life for our children and youth is not limited by the geographic borders of a town, as it was in 1645; or of a colony, as in 1745, or of a state, as in 1845, or even of the nation, as it was in 1945. Plans for action in behalf of our own children must take into consideration the total world community in which our children will grow up and live. Unlike us, they will have contacts and working relations with all kinds of people all over the world. Our 45 million children will have to take their place with the world's 700 million children.

To this end the First World Health Assembly of the World Health Organization, meeting in Geneva last July, placed maternal and child health in the top priority list of subjects to be given attention, and made funds available to start a program of service to the member nations. All the peoples of the earth crave health. The World Health Organization has the great task of interpreting to the peoples of the world that health means "mental and social well-being as well as physical health"; that it is "not merely the absence of disease

and infirmity"; and that the healthy development of the child is essential to harmonious living among peoples.

Today we are living at the beginning of a new age—an age brought about by the discovery of atomic energy, an age with potentialities and complexities which baffle and confuse and stagger the minds of ordinary men and women. We cannot as yet grasp what it means and, as usual, we are afraid of the unknown. Those of us who work in the fields of health and social welfare and education hopefully believe that we have a job to do which may in time alter the course of history, indeed which may make "history" possible. Our task is a difficult one for it involves changing attitudes of people, helping young people acquire the emotional maturity and the sense of responsibility requisite to living in a world of many nations with diverse ideologies and different cultural and social backgrounds. If we use—and implement—the definition of health set forth in the Constitution of the World Health Organization that I have already quoted to you, it becomes clear that this is a health task. It is a task that every one of us, no matter what his professional training, can work on in his usual daily round.

But accomplishments in this field represent a long haul, a haul that will be productive only if we are given time, only if we have the imagination, the initiative, the intelligence, and the resources to push ahead with all possible speed.

As we view the critical world situation, we become frantically aware that unless, as Toynbee puts it, we give ourselves "time for peace," unless we find ways for nations to work together and break away from war as a means of settling differences, unless we gain now "the anticipatory wisdom" necessary to avoid world catastrophe, we will have no opportunity for our long haul task.

Our task is twofold then—first to work to gain "time for peace," and second to go about our daily jobs with the conviction that we can lose no time in reaching our full objectives for health for all the people, but with special concentration on the health of the oncoming generation. Our children are indeed our measure of social progress.

As I have been preparing this address, the words of one of our great American poets have echoed and reechoed through my mind. Perhaps they epitomize the challenge of our times. Walt Whitman, when sending a copy of *Leaves of Grass* to Emerson wrote, "Master, I am a man of perfect faith. We have not come through centuries . . . to halt in this land of ours."

The Ailments of Health Departments*

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AT the beginning of his address of last year Dr. Karl F. Meyer expressed his longing for a new definition of health. He was prophetic, for such a definition has now been given to us by the World Health Organization in what Dr. Chisholm, the Canadian psychiatrist, has called the most clearly defined word in the English language: "Health is the condition of physical, mental, and social well-being and not the mere absence of disease or infirmity."

We are met here to consider the health problems common to the western area of our country, but I shall have to take a backward step and consider not health at all, but ask your attention to two chronic ailments that still afflict health departments themselves no matter how progressive they may be. I speak of the chronic lack of funds and of the still worse lack of trained personnel.

It is my opinion that in the appeal for funds from legislatures and city governments, we have nowhere stressed sufficiently the fact that preventive medicine is economically sound. I speak from the standpoint of our two legislative failures in Colorado in 1947 in a session of the legislature conspicuously in favor of health measures. These two failures were to set up preventive measures against brucellosis in our dairy herds, and to provide hospital beds for our excess of tuberculous patients.

It is certainly not difficult to show that the elimination of Bang's disease from dairy herds would increase the per capita wealth of any dairy state. You all remember the studies made in Michigan by Dr. Huddleson last year and reported in an editorial of the *Journal of the American Medical Association*, July 5, 1947, which stated that inasmuch as an infected cow produced 2,065 less lbs. of milk per lactation period than the non-infected cow, the State of Michigan lost 222,904,000 pounds of market milk per year from the prevalence of this disease. The loss was enough to supply about half a million persons a year with milk; the loss in butter was enough to supply about 600,000 persons. As if this were not a sufficient deficit of real wealth, the loss in calves represented a loss of 1,299,200 lbs. of veal or of 6,494,000 lbs. of beef, or of a proportionate annual loss in dairy products if the calves were raised as milk-producing animals.

Try to imagine these losses of real wealth reported for one dairy state, if computed on a national level, with the number of dairy cows and the percentage of infection used as the basic data. The data on losses is so impressive that it has not been too difficult a task to convince the dairy industry that preventive measures pay in terms of increased dividends.

I wish to have the health forces make more and more use of such data, to convince the business world that we are not just "do-gooders" used as a term of opprobrium, but that preventive

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medicine is interested in increasing the per capita wealth of the community, as well as increasing the well-being of all the people.

Why did our bill, aimed at quarantining infected dairy cows only, fail even with the backing of the dairy industry? The answer is that the bill was killed in the livestock committee; however, defeat is often the first step toward improvement, and we are now convinced that the livestock industry is ready to assume leadership in this problem.

Here is a true western problem: the whole territory just east of the Rockies —Texas, New Mexico, Colorado, and Wyoming—is traditionally a country where "cattle is king," representing an industry of great national importance.

While the dairy industry in Colorado is worth about $40,000,000, the cattle industry is worth $113,000,000. No wonder that with all the glamour of their historical traditions and with their present real national importance, they are a controlling factor in the West in measures that affect their industry. Under these conditions, why did the saving of calves lost by a reasonably preventable disease seem of less significance to the cattle industry than to the dairy industry? I suspect that in Colorado, at least, the reason is that a greater difficulty and a more immediate concern to them was the shortage of grazing land. Shrinking of grazing land has a long, long history in the West.

At present, the Governor of Colorado has appointed a special committee with representatives of the livestock industry, of the dairy groups, of veterinarians, of the public health forces, and of the public to make a special study of the best possible control measures for this disease, with the next legislature in mind.

Instead of appointing the individual members to this committee, Governor Knous asked the different groups to designate their own representatives. This state-wide committee has drawn up a bill of which I quote the section on the "Control and Eradication Program": "In an effort to control and eradicate Brucellosis in the State of Colorado, the Commissioner (Livestock Commissioner) is hereby directed to inaugurate and continue a program for such control and eradication throughout the State, by the vaccination of all heifer calves and the testing of all dairy cattle as hereinafter provided." The committee also authorized the appointment of a small committee to carry on an intensive educational program up to the time of the next legislative session.

I bring this matter before you not to stress the provisions of our particular bill, but—since no state can solve this problem alone—to suggest that it would be good policy for our western states to attack this problem at the same time.

What is our status with respect to tuberculosis in the Western Branch? I lack the data from Hawaii, the Philippines, and from British Columbia, but the records from Alaska are perhaps our very worst. Of the eleven western states, the records of 1945 showed three—Nevada, Arizona, and New Mexico—in the group of the highest death rates (43.6 to 123.1 per hundred thousand), and three—California, Montana, and Colorado—in the next worst group (37.3 to 43.5).

Why should Colorado, surrounded by Utah, Wyoming, Nebraska, and Kansas —all with the lowest rates—have such a record? Analyzing the state records, it is not the state as a whole that has such a poor rating but a zone east of the mountains; moreover, Denver, Colorado Springs, and Trinidad account for much of it. It seems to me that the official agencies should now work with precision to seek out and correct these spots of special concentration of this disease.

The National Planning Association

of Washington, D. C., has been making studies of the economic losses from several diseases—including tuberculosis—which have been loaned to me by John Miller, the Assistant Director of the Association. With his permission, I am using their figures.

The studies were made for the year 1943, since that was the latest date for which they could secure all the data they needed. Nineteen hundred forty-three was a war year and so not wholly typical, but their figures are very moderate and it is their trends we wish to emphasize. They estimated that tuberculosis cost the United States for that year about $174,000,000. This included the care of the ill in sanatoria and at home, case finding, education, rehabilitation, aid to families when the wage earner had tuberculosis, research, and pensions to tuberculous veterans.

They then considered the loss in personal income to families and the losses in goods and services to the nation from this disease. For the 41,631 wage earners who died in 1943, and from those who were ill with the disease that year, they estimate a production loss of $348,000,000 worth of goods and services.

Then, turning to the cost of reducing this disease to a very low level with the known methods of case finding, cost of care, of follow-up of contacts, rehabilitation, assistance to families, education, and research—they estimated an annual cost in the peak years of $320,000,000. This figure of $320,000,000 did not include the cost of new hospitals to provide the necessary beds for tuberculous patients, but they estimated that about $70,000,000 of the new program for bed construction and equipment should be ultimately assigned to the eradication of tuberculosis.

This was on the basis of a ten year program, with costs lessening as losses gradually diminished. Think of it! For a cost lower, or—if hospital construction is included—only slightly higher, than the present losses, our annual expenditure for this disease might be reduced from $174,000,000 to a maintenance cost of around $36,864,000. It seems to me imperative that we find out the zones of high incidence of this disease and start a ten year campaign to correct present conditions.

Here have been given two examples of data on the economic losses of preventable disease which we might use with increasing skill and with increasing effect on the first of our two major problems: how to get enough money to carry on preventive measures. Dr. Meyer raised the question: "How are we to devise an education for the legislator?" A part of the answer is the skilled use of data on the economic losses of preventable disease.

Now may we turn to our second great infirmity, the lack of trained personnel. This is such a serious ailment that we may expect but limited suggestions.

The Social Security Administration sent out a map of the states in preparation for the recent National Health Assembly in which all the county health units were marked in black, and their absence marked in white and gray. On this map there are two rows of western states of four states each that make essentially a great white way. They are improving their status in regard to health units, but they still have far to go. I refer to Montana, Wyoming, Colorado, and New Mexico as the Rocky Mountain states; and Idaho, Nevada, Utah, and Arizona as an Intermountain Zone.

Now each of these two great western zones has just one medical school. The members from the Pacific Coast may just count their medical schools and then not listen to our troubles. We are beginning to overlook our county lines now to set up District Health units. Why could not we overlook a *state* line or two? We have a really progressive medical school in Denver; it is now a true medical

center. The medical services of the Denver General Hospital, drawing patients for the entire city, have been put under the direction of the medical faculty, so that the school now draws its patients from all of the counties and from the city, as well. Therefore, the school now has ample clinical material. To increase its student body, it needs additional laboratory facilities and increased state appropriations for education and research. Tuition fees nowhere pay for medical education. I asked the Governor of Wyoming what he thought of the idea of having a real part in our Medical Center, and he was greatly interested. There are this year in Wyoming, 50 pre-medical students ready for entering a medical school, and with our system of state universities, it is almost impossible to place them.

Here is probably a pretty stiff proposition to put up to state legislatures, but why not put it to the people first? Our school could be the Medical Center for the Rocky Mountain states. I do not know the local problem here in Utah, but why could not your great school here in Salt Lake City become the great Medical Center for the Intermountain Zone? At any rate, will the delegates from New Mexico, Wyoming, and Montana talk about a Rocky Mountain Medical Center, an institute of medicine, of research, of psychiatry, of dentistry, and of public health as our common possession? Of course, an increased enrollment of medical students is only one aspect of our deficiencies. We need, also, more nurses, more sanitarians, and more sanitary engineers, for personnel is the major problem of health departments.

The pioneers who settled our western states had a tradition of solving their own problems, so why not maintain this tradition with this new and pressing problem of medical education?

Twenty-five Years in Maternal and Child Health

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NINETEEN forty-six represented another year of real progress in maternal and child health in Mississippi. A further decline of 20 per cent in maternal deaths and of 8 per cent in infant deaths during that year represented the 11th year of continuous decline in the rates for these two figures. The last 10 years have brought approximately 50 per cent reduction.

To those of us who have had the privilege of pioneering in the early days of the Sheppard-Towner Act in 1921 and even before, the situation was not always the favorable one we face today. In 1913, the first year when reliable statistics were available to any state in the South, the puerperal state in Mississippi was responsible for 447 deaths, and diarrhea and enteritis alone in young children was responsible for 678 deaths. In the U. S. Registration Area, in the early 1900's, the annual average rate for 1906 to 1910 was 15.5 per 100,000 for the former and 96.2 per 100,000 for the latter.

In a published article at that time it was commented that "the huge death rate in Mississippi from the puerperal state can be readily accounted for as being due to the fact that the state does not require midwives to be licensed. The death rate from this cause will never be reduced to any great extent until the state requires such persons as engage in the practice of midwifery to have at least some knowledge of cleanliness."

RURAL SANITATION PROGRAMS

Public health programs in Mississippi, and indeed in the nation as a whole, were directed at that time toward better rural and municipal sanitation. Because of the work in the control of hookworm, which had been going on in Mississippi since 1910, widespread interest had been aroused in the serious results of this disease, and in the 3 years 1911 through 1913 some 84,000 children had been examined and 30,941 shown to be infested.

There is perhaps even now no known disease more insidious in its injurious effects upon child life than is hookworm disease. By 1914, however, there was scarcely a school in Mississippi that had not had an address on hookworm by a representative from the Mississippi State Board of Health. There was rather early recognition on the part of our state health department of the need of activity on the behalf of the children in Mississippi. Interest in behalf of mothers on the other hand came somewhat later.

In 1917 W. S. Leathers, M.D., then Executive Secretary of the Mississippi State Board, wrote, "Child health activity in Mississippi has been neglected in the past. There is no greater need in Mississippi today than the study of infant mortality with the hope of reducing deaths among children less than 2 years old and also the medical inspection of children of school age." It was pointed out in the report of the board

at that time that the English Parliament had enacted legislation for compulsory inspection of school children seven years before and that a system of medical inspection of schools had already been in vogue for thirty years in Japan.

The Board in 1917 recommended that a division of child welfare work be established. At that time there were already employed in the public health work of Mississippi four visiting nurses who according to their secretary were "proving themselves of invaluable assistance to the physicians in their mission of instruction and demonstration of the principles of hygiene and through their work in the schools." Some states at that time had as many as a score of these pioneering women.

INITIATION OF THE MIDWIFE PROGRAM

The first official contact of the Mississippi State Board of Health with the midwives and, indirectly, with maternal problems created by their practices, other than the efforts to instruct them in the reporting of births since 1912, was the passage of the model law for the prevention of blindness. This law passed in 1916 required the State Board of Health to educate the physicians and midwives of the state in the use of silver nitrate at birth and was begun by using the total annual appropriation of $300 (!) for the distribution of considerable literature to the physicians and to the midwives. For the midwives, the literature read:

"Instruction for the Care of the Eyes of Newborn Babies of the State:

"As soon as the baby is born the midwife must carefully clean the eyelids with water that has been boiled. She must wipe the eye from the nose outward without opening the lids, then the eyelids must be separated and two drops of 1 per cent silver nitrate solution dropped in each eye."

The pamphlet concluded by pointing out that "To lose one's sight is like losing life itself. Save your baby's sight." The county health officer, at that time, of course, a part-time poorly paid official, was made responsible for the enforcement of the law.

ESTABLISHMENT OF THE BUREAU OF CHILD WELFARE

By 1920 the first Bureau of Child Welfare was created, to include prenatal work, medical supervision of school children, supervision of nutrition clinics, and supervision of midwives of the state. Forty thousand dollars was appropriated by the State Legislature, and the U. S. Public Health Service sent in a woman physician to organize the program. After 6 months a full-time director was appointed from the staff of the State Board of Health itself.

An appeal was made to the newly enfranchised women of Mississippi for interest and support of the new bureau. Eleven counties made the first appropriation ($1,000) necessary for a child welfare unit. Although the principal work was to examine school children, a limited amount of infant, preschool, and prenatal work was carried on. For example, prenatal letters were sent to expectant mothers.

It was recognized soon, however, that child welfare work to be effective must commence with a more intensive prenatal program. In March, 1921, a nurse from the Public Health Service began the registration and holding of classes for midwives. At that time there were in Mississippi 1,700 practising physisians and 5,000 practising midwives, a ratio of about 1 to 3. In the next 4 months, the first group of 922 midwives were investigated and 563 were given permits to continue the practice of midwifery.

Through the interest of the American Red Cross, a Division of Public Health Nursing was established at about the same time under the direction of Mary D. Osborne, R.N., who assumed the re-

sponsibility of the midwife program in February, 1922, and who carried on continuously the direction of this program until March, 1945, almost a quarter of a century.

INITIATION OF THE MATERNITY AND INFANT HYGIENE PROGRAM

At that time too federal funds first became available under the Sheppard-Towner Act in the amount of $17,067 to be matched with state funds, with an additional $5,000 available without matching. These funds were intended for the "promotion of the welfare and hygiene of maternity and infancy." The child health program was, up to that time, almost exclusively one of medical inspection of school children. For this reason, in 1922 a new division of maternity and infant hygiene was established under the Bureau of Child Welfare to devote special attention to mothers and to infants and children under 2 years of age.

At that time no less than one-sixth to one-seventh of all deaths that occurred in Mississippi were among children less than 1 year old. The initial program as outlined was considered by the Children's Bureau as the best single state plan presented for that year. By July 1, 1922, 16 additional nurses were added to the staff of the Bureau of Child Welfare, all paid or partly paid from federal funds. Five of these were district nurses who were assigned to the midwife program and who, in the succeeding two years, saw and examined 3,027 midwives.

In 1922, maternity care was needed for about 45,000 mothers each year in Mississippi, of which no less than 22,700 were delivered by midwives. "Some forty-five thousand lives (mothers and infants) were being entrusted annually to the care of ignorant untrained midwives." It was realized, of course, that this was the biggest factor contributing to the high death rate among both mothers and infants in Mississippi. During the preceding two years no less than 4,670 babies had been born dead in the state. Deaths among infants under 1 year had numbered 5,983, and deaths due to puerperal causes had numbered 704. The economic loss due to stillbirths alone had been estimated at $350,000 during the preceding biennial period.

As services were extended to mothers in Mississippi it was found early in the program that syphilis was having an important bearing on child health. For this reason, within three months after the establishment of the new Division of Maternity and Infant Hygiene, a nurse was added full-time "whose efforts have been expended mainly with the midwives of the state, teaching them of the ravages of venereal diseases." Among 4,000 blood tests in expectant mothers, 600 were positive for syphilis and the midwives themselves were found to be infected in about 10 per cent of the instances.

EARLY EMPHASIS ON NUTRITION

It might be well to discuss at this time the early emphasis placed by the Bureau of Child Welfare in Mississippi on nutrition. In part, this dates back to the early work of Goldberger in the state on pellagra, for it was in Mississippi that his studies were made proving the dietary nature of this disease, and in part to the extreme malnutrition which the ravages of the hookworm had made so apparent in children of school ages.

Pellagra, in 1914, in Mississippi, was third in rank on the list of causes of death, and was causing the state an economic loss of at least $2,280,111 a year. About 15,831 cases were reported by physicians in 1915 and deaths were occurring at the rate of 1,500 a year. Children naturally were affected, too. As part of Goldberger's studies, lean meat, milk, eggs, beans and peas were added to the diets of the children in

two orphanages in Mississippi where 209 cases of pellagra had occurred the previous year and the number of cases was reduced to one.

By January, 1921, over six months after the establishment of the Bureau of Child Welfare, a nutritionist was added to the bureau staff. Even at this period in the nutrition program the nutrition worker pointed out that there "was a lack of knowledge of how to cook vegetables" and that "in a climate where vegetables can be grown almost the year round, the vegetables so needed by children are almost unknown." These are statements which may seem familiar even today, to our modern workers in this field. Parents still seemed to consider "weight a much more definite and urgent problem than individual physical defects."

Prominent among the defects of children in Mississippi then, as now, were dental defects. In January, 1923, a new division, that of Mouth Hygiene was organized and work begun with school children. It had been decided that the logical place to begin a program in the prevention of bad teeth was in work with small children. Some three thousand children were examined by a dentist in the first year. An idea of the need for the program can be gained from the fact that at that time the regular activities of the child health program had found that, among 33,317 children examined, some 25,767 had dental defects.

EARLY PROGRESS IN THE MATERNAL AND CHILD HEALTH PROGRAM

By 1922, the total death rate in Mississippi was showing a steady decrease. Public health applied in a planned efficient manner had saved 6,600 lives in four years and Mississippi's death rate was now 10.8 (while California's was 14.1). With the assumption of the position of executive officer of the Mississippi State Board of Health by the director of the Bureau of Child Welfare, the latter bureau was combined with that of Public Health Nursing, and the director continued as acting director. The American Red Cross support of the nursing program in Mississippi continued until 1924 and the Children's Bureau continued to offer its support and assistance.

The midwife manual was completed by Mary D. Osborne, R.N., in 1924. Within succeeding years more requests came from foreign countries for the midwife manual than for all other health bulletins of the Mississippi State Board of Health combined. A circular letter was sent to every physician in the state at this time, asking if the intensive work done with the midwives was being reflected by a corresponding improvement in the practices of the midwives. The physicians replied in the affirmative in approximately 78 per cent of the cases. Some 2,000 classes for midwives were now being held biennially, attended faithfully by the midwives of the state.

Local health department child welfare services at this time consisted of physical examinations of school children and better baby conferences for babies and preschool children. Medical maternity services were not as yet available, although public health nursing activities included, in the biennium, nursing services to 3,744 pregnant mothers. Public health nursing services were now available on a full-time basis in 25 Mississippi counties, through funds in part derived from the Children's Bureau.

By 1926, the program of the Bureau of Child Welfare might well be described as state-wide. No additions to the fundamental divisions of medical school inspection, nutrition, mouth hygiene, and maternal and infant hygiene had been made. However, there were now 6 dental hygienists, where there had been 1 before. A new program, the establishment of a children's health camp, was begun in July, 1925, intended for children who were convalescing from various illnesses.

This later developed into a full-time preventorium at the State Sanatorium which is still in operation.

Midwife supervision activities continued at an intensive level and physicians over the state attested to the continued improvement in their cleanliness and in the care of the mothers they attended. The type of midwife meeting had now "changed from a dirty, disorderly group, talking and paying little attention, to a group dressed in clean white uniforms and caps, all eager to learn." Of the 4,209 found in the original survey, 2,495 had given up their practice and, together with the new additions, 3,040 were now on the active list. There were 299 organized midwife clubs over the state. For their cases regular organized medical and nursing maternity conferences—a new aspect of the program—were now being held in one-fourth of the full-time county health departments.

GROWTH OF FULL-TIME COUNTY HEALTH PROGRAMS

By 1930, public health programs in Mississippi had become established on a full-time basis in 25 counties and this improvement in the organization of basic public health services was reflected in more efficient services to mothers and children. A liberal interpretation of the Sheppard-Towner Act by the Children's Bureau helped here. County health department reports began to include such statements under the heading of child welfare programs, as "Three hundred and thirty-nine infants and preschool children have been examined and 776 home visits have been made by the nurses (now full-time members of the health department) in the interest of infant welfare work."

The protection of the health of the children of the state, at one time considered only of minor interest, now constituted one of the major activities of the Mississippi State Board of Health. The infant mortality rate in 1931 was 56.5 per 1,000 in Mississippi while the corresponding national figure was 62. Midwives were still caring for 50 per cent of all mothers in Mississippi at the time of delivery, but the maternal death rate which had been 9.5 per 1,000 live births in 1925 in Mississippi, was now in 1932, 6.0—below the national average. The 375 midwife clubs which were now meeting regularly were carrying out their functions extraordinarily well.

By 1932, the dental hygiene program in Mississippi received a citation from the president of the American Dental Association as being one of the leading programs in mouth hygiene in the states. In a two year period this program had offered 176,000 children dental inspections through the services of 4 itinerant dental hygienists. The nutrition program, however, which had begun so early as an important part of child health activities, had fallen by the wayside.

A new aspect of the maternal and child health program during the year was a coöperative project with the Children's Bureau in postgraduate instruction in the field of obstetrics, using the services of a professor of obstetrics from a neighboring medical school. Nearly one thousand physicians attended a full 1 week postgraduate lecture course. Physicians also began to attend 4 month graduate fellowship courses sponsored by the Commonwealth Fund.

EXPANSION OF BASIC SERVICES TO MOTHERS AND CHILDREN

By 1933, some 13,000 mothers and 26,000 infants and preschool children were receiving medical and nursing services through the 28 organized county health departments each biennium. The Division of County Health Work reported at the end of that year, "greater impetus has been given to the prenatal program and many counties have started or expanded their medical prenatal conferences . . . more infant and

preschool conferences are being held and greater emphasis is being placed on the protection of this age group from preventable diseases."

There was, by 1935, an increasing awareness of the need for anti-syphilitic treatment among the maternity admissions. One county health department pointed out that "of 240 patients coming for antepartum medical care, 90 showed a positive serology; and only 41 had some anti-syphilitic treatment." The maternity services had by now shown such a rapid development that "in a number of counties at the present time the problem is to find some method of limiting the service so that other important activities may receive attention."

INTEREST IN POSTGRADUATE EDUCATION

Through the interest of the Commonwealth Fund, a full-time obstetrician was now available to carry on lectures and clinical demonstrations. In the first 6 month period, 15 towns in Mississippi were offered his services, with an enrollment of 90 per cent of the physicians in each area. Now health departments were finding that most of the maternity cases were admitted to service as early as the 5th month, making it possible to render a more nearly adequate service of supervision and instruction.

One of the original aims of the maternity program had been to secure more deliveries of mothers by physicians. The past twenty years, however, had seen a decrease in the number of physicians in Mississippi from 2,048 in 1916 to 1,515 in 1936, a number actually less than that in 1886. The percentage of midwife deliveries, with the establishment of the Bureau of Child Welfare, had been approximately 50 per cent, and was by 1934 50 per cent. The importance of the long years of planning and of carrying out the midwife supervisory program was thus emphasized. Single counties had as many as 91 midwives enrolled in clubs.

Many unnecessary maternal deaths, however, were still occurring. One health department's report pointed out that in the one county "there were 13 maternal deaths in two years, of which at least one-half might have been prevented if adequate care had been available."

The postgraduate instruction courses in obstetrics were included, the course in obstetrics having reached 820 physicians in 45 towns in Mississippi, or about one-half of the physicians in the state. A similar course in pediatrics was begun and made available to 500 physicians in 18 Mississippi towns. Through the coöperation of the Children's Bureau, a new program of obstetric and pediatric instruction for colored physicians was also carried out, reaching practically all the colored physicians in the state.

Child Health Day activities had been carried on annually each May since 1931 with increasing emphasis. As many as 12,000 child health buttons were made available in one county health department at Child Health Day celebrations. Six years later a special state Child Health Day Committee headed by the Governor was appointed with the slogan "Health Protection for Every Child."

In 1938, the maternal and child health program had been placed under the Division of County Health Work. A full-time obstetrician was employed to offer consultation service to health departments in the examination of prenatal patients. Still, "almost daily," at this time, it was pointed out, "some mother in the state dies of a preventable condition associated with pregnancy." Fully 80 per cent of the deliveries were being carried out in the home of patients, and hospital deliveries were reserved for obstetrical emergencies.

ESTABLISHMENT OF THE FIRST HOME DELIVERY SERVICE

A new demonstration program in Pike

County offered to physicians maternity nursing service at the time of home delivery. During the first 8 months, the services of the public health nurses were used in 67 per cent of all home deliveries. In addition, sterile ready-packed home delivery kits were made available to physicians in many Mississippi counties where predominantly home deliveries were made. This was an effort directed toward reducing further the 28 per cent of the maternal deaths which were due to infection.

In the biennium 1939–1941, the Division of Maternal and Child Health was established under a full-time medical director. Maternal death rates were now 6.2 per 1,000 and infant death rates were 54.5 per 1,000. The number of midwives had dropped to 2,997. The colored maternal mortality rate which had been 12.8 in 1930 was now 7.5 in 1940. Under the stimulus of the new division, along with the increasing number of organized full-time county health departments, the number of mothers admitted to antepartum medical service numbered 15,578 in the biennium, an increase of 34.2 per cent. Toxemias of pregnancy were, in 1939, responsible for 30 per cent of all maternal deaths, in fact the leading cause of maternal deaths; and in a great measure preventable. Infections were responsible again for another 28 per cent of the deaths and in a great measure preventable also.

The number of infants receiving nursing service increased to 30,286. There were now 245 maternity centers offering antepartum medical and nursing services and 435 child health conferences. By the addition of a pediatric consultant, recognition was given to the emergency needs of the premature infants, which make up some 20 per cent of the infant deaths each year in Mississippi. Approximately 2,500 premature babies were being born yearly. Public health nurses were instructed in the care of the premature infant, incubators were purchased, and emergency supplies made available to each organized county in the state.

Nutrition, with all of its manifold important public health aspects, was reëstablished as an additional service of the Mississippi State Board of Health in 1942. A study of the dental hygiene program at about this time showed that Mississippi children had a lower rate of dental decay than in most eastern states. Public health nursing services had grown until there were now more than 200 public health nurses on duty in the 65 full-time county health departments. The anti-syphilitic program, so important a factor in maternal and child health work in Mississippi, was now extending 1,018,000 treatments a year to Mississippi citizens.

INITIATION OF THE MISSISSIPPI EMERGENCY MATERNITY AND INFANT CARE PROGRAM

In April, 1943, the Mississippi Emergency Maternity and Infant Care Program was initiated to offer through family physicians maternity and pediatric care for the wives and infants of enlisted men serving in the armed forces. In the next 3 months, some 1,400 applications were received. Eventually, during the 4½ years of its operation 25,667 applications have been made to the program. A statistical study of the program's 5,259 deliveries in 1944 showed that the per cent of hospital deliveries was doubled, the stillbirth rate was halved, and the maternal death rate was reduced to one-third of the corresponding figure for all the births in the state that year.

The number of hospital deliveries in Mississippi increased sharply from a total of 9,000 to 17,000 within a 4 year period—1941 to 1944—in large part due to the stimulus of the EMIC program. Seventeen thousand mothers were now receiving antepartum medical services and 26,000 antepartum nursing services

through their county health department during a biennial period. Some 56,000 maternity visits were contributing much to continued reduction in maternal mortality figures—from 6.2 to 4 per 1,000 in the 5 year period—1940–1944. Infant mortality rates were showing a decrease like that of the maternal rates, dropping from 54.5 in 1940 to 43.6 in 1944. The total loss of life from stillbirths and infant deaths was still, however, appallingly high. For example, the total known loss of life in this group in Mississippi for the 5 years 1939 through 1943 was 26,720.

Planned parenthood services were also made a part of the maternity program, the state receiving the Albert and Mary Lasker Award for its outstanding work in this field. Postgraduate programs in obstetrics and pediatrics during the wartime years reached one-fifth of the physicians in active practice. Some 305,000 copies of infant and child health literature, either from the Children's Bureau or prepared by our own Division of Maternal and Child Health, were distributed in the biennium. Sixty-six hundred maternity or infant and preschool conferences were held during the biennium—1943–1944, or an average of 10 a day throughout the state. In the nutrition program, 76,000 pieces of nutrition literature were distributed.

NEW PROGRAMS IN THE MATERNAL AND CHILD HEALTH FIELD

A new program in child health was added, that of child guidance in 1943, and 9 branch centers for child guidance activities were established under the direction of a child psychiatrist and her staff.

The rapid growth of the child guidance program suggests that it may develop into a whole mental hygiene program of its own. Referrals increased rapidly. There was also an increasing awareness of the importance of tuberculosis to the maternity program. It was estimated that approximately 1,200 women with active tuberculosis were giving birth to infants yearly. Deaths from puerperal causes in Mississippi numbered 233 in 1943, while deaths in women from tuberculosis in the same age group numbered 298.

Wartime shortages in medical and nursing personnel interrupted to some extent the steady progress in maternal and child health in Mississippi. Consultants in pediatrics and obstetrics were no longer available, and shortages of faculty members in medical schools interrupted the postgraduate courses. Now, however, again the postgraduate program is being expanded. Consultants in pediatrics and obstetrics are again available through a unique arrangement with the school of medicine of the University of Tennessee and of Tulane in the fields of obstetrics and pediatrics.

The hospital construction program under the Hill-Burton Act promises to construct the 1,600 hospital beds for maternity purposes, so long an unmet need in Mississippi. With them, better hospital facilities for the care of the premature infant and other pediatric conditions are being added. The Blue Cross program promises surgical and hospital care on a voluntary prepayment plan basis to many groups in Mississippi.

Midwife deliveries in 1946 dropped to 37 per cent, the lowest in the history of the state. About 40 per cent of all deliveries are now occurring in hospitals. The maternal death rate in 1946 was 3.2, the lowest in the state's history and a figure representing a decrease of 20 per cent in one year. Infant death rates had shown a further decrease of 8 per cent to reach another all-time low of 36.8 per 1,000 live births. Forty thousand children a year are being immunized against diphtheria through county health departments, and deaths from diphtheria in the state numbered 31.

In 1946 similar decreases in the incidence of syphilis and of tuberculosis among expectant mothers were taking place. Malaria, typhoid fever, and pellagra can now be considered as of the past.

Hookworm, however, is still crippling thousands of children. Dental decay is still a major public health problem in Mississippi and elsewhere. Malnutrition, in a lesser degree of severity, is still widely present in the population. Its great importance in the control of eclampsia and in the prevention of premature births and stillbirths is beginning to be realized. The mental hygiene aspects of pregnancy are being studied in a demonstration program. The planned parenthood program is being extended and the possible advantage of x-ray pelvimetry in the maternity program are being explored.

Seventy years ago the infant mortality rate in Mississippi was estimated by an early physician as being approximately 250 infant deaths for each 1,000 live births. We, in the South, are looking forward within the next 10 years to an infant mortality rate of 25 per 1,000 live births, or exactly one-tenth the figures of three-quarters of a century ago.

NOTE: Gratitude is hereby expressed to Dr. Virginia Howard, Director of the Division of Maternal and Child Health, Mississippi State Board of Health, for collaborating in the preparation of this article.

"Our challenge in this generation is to discover the common interests, the terrain of possible collaboration, the overlapping areas of curiosity and sympathy, of aspiration and mutual advantage, that bind the human race together regardless of ideologies or boundary lines. The search for these rallying points of unity, the development of new techniques and areas of coöperative action where ideas and experience can be pooled and combined—this is the immediate task; this comes first; this is the foundation of the ultimate structure of a united society.

"The activities of the World Health Organization of the United Nations furnish a pertinent illustration; for health is something that all men desire and there is no limited supply for which nations must compete. Public health work carries no threat to anybody, anywhere. Cancer and scarlet fever have no political ideology. There is no Marxian method of eliminating gambiae mosquitoes as distinguished from a Western democratic method. The principles of sanitary engineering do not bear a Russian or an American label. No difference exists between tuberculosis in the Soviet Union and tuberculosis in the United States. Infantile paralysis is the same thing in Moscow and in Washington, and human sorrow is no less poignant in one city than in the other. The world of disease and misery is not divided; it is a common world. In terms of human suffering the world is truly and tragically one world." — Raymond B. Fosdick, *Rockefeller Foundation—A Review for 1947*.

Cave Sickness
A New Disease Entity?

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DURING the past year we had the opportunity to investigate in Arkansas an outbreak of a peculiar pulmonary disease, mention of which appears only once to our knowledge in medical literature. Cain [1] and his coworkers published a report on just such an episode which occurred in the neighboring state of Oklahoma in 1943. Later a personal communication noted another similar instance happening in Mexico.[2]

In none of the investigations including our own, was an etiologic diagnosis established. We have dubbed the condition "cave sickness" because of the feature common to all three outbreaks and have concluded that this is a new or at least inadequately described disease entity.

Our study was conducted on 21 white male patients who represented the greater part of the 25 persons engaged in a treasure hunt in an old abandoned chalk mine in southwestern Arkansas. Excavation was started September 12, 1947. At intervals beginning with the 4th and ending with the 13th day of operations, all of those who had spent any time in the cave became ill in varying degrees of severity. Data in Table 1 give the ages, incubation periods, calculated from patient's first visit to the cave to date of onset, length of exposure, which could not be defined in terms of hours and minutes, and type of disease.

Only individuals who had entered the diggings were involved in the outbreak. Among them the disease took the form of a febrile illness with pulmonary manifestations. Onset was sudden after a short prodrome of coryza and malaise followed by chills and fever.

The rest of the symptom complex was composed of headache, in some cases with retro-orbital pain, nuchal tension, nervous irritability, slight cough, chest pain, weight loss, and certain general complaints.

There was a dearth of physical findings. Aside from increase in temperature and pulse, all signs were confined to the chest where sonorous inspiratory and expiratory rales were heard early in the illness. These later became moist and sticky and disappeared after coughing.

Clinical laboratory studies were not revealing. Chest radiographs were spectacular and in keeping with the prostration of the patients. The report on these is as follows [3]:

"The striking features of all the films evincing marked pulmonary involvement are the uniform distribution of the lesions from top to bottom, their consistent size and shape, the lack of any tendency to confluence, the absence of any pleural reaction, and the freedom from involvement of both the bronchopulmonary and tracheobronchial lymph nodes. It is my opinion that this process was pro-

TABLE 1

Patients According to Age, Incubation Period in Days, Type of Exposure, and Severity of Disease

Patient	*Age*	*Incubation period*	*Length of exposure*	*Type of disease*
H. M.	11	8	short	mild
L. A.	16	?	short	mild
R. F.	16	6	short	mild
J. W. G.	15	6	moderate	mild
J. H.	19	9	short	moderate
H. H.	13	5	short	moderate
C. D.	15	7	short	moderate
H. G.	13	7	short	moderate
R. M.	16	6	short	moderate
R. B.	16	6	prolonged	moderate
R. C.	16	7	moderate	moderate
D. N.	16	7	moderate	moderate
R. C.	13	7	short	moderate
E. H.	18	8	moderate	moderate
O. B.	55	10	moderate	moderate
W. M.	32	13	prolonged	severe
C. B.	36	7	prolonged	severe
M. M.	23	4	prolonged	severe
D. G.	16	11	moderate	severe
K. M.	17	8	prolonged	severe
M. B.	18	7	moderate	severe

duced by a particulate entity which was spread almost entirely by hematogenous dissemination and which occurred in a single shower."

All patients received sulfamerazine and penicillin in therapeutic amounts without noticeable response. The disease was apparently self-limited to 6 or 7 days at which time the men were able to leave their beds although they complained of weakness and a residual dyspnea. These last persist to this writing (February 26, 1948).

The patients suffered in three degrees of severity. We present the record of a patient with the severe type of affection. The moderate and mild cases had lower temperatures and less marked prostration. Length of morbidity and extent of disability in convalescence did not vary in the three classifications.

M. M., 23 year old white planter. This patient worked prolonged periods in the cave. On the 4th day after beginning work there he noted a mild coryza with "stuffed-up" head, dry throat, and feeling of slight malaise. Late in the evening he had a shaking chill during which time his temperature reached 105° F. This was followed by profuse sweating. His temperature remained between 103° F. and 105° F. for 72 hours, despite treatment with oral penicillin, 100,000 units every 3 hours, and a sulfamerazine mixture containing 1 gm. of sulfamerazine and 1 gm. of potassium citrate per teaspoon. Resolution of his fever was by crisis, but for 4 days thereafter the patient had a daily afternoon elevation up to 103° F., accompanied by a shaking chill and followed by sweating.

At the onset the patient complained of severe headaches, retro-orbital pains, and a definite nuchal tension, and exhibited a marked nervous irritability characterized by dramatic response to stimuli. However, on the 4th day of his illness he became lethargic and lapsed into what was described as a semicomatose state lasting about 48 hours, from which he recovered spontaneously.

He also complained of anorexia and slight nausea, and lost 24 pounds during his illness. His illness was self-limited to 7 days, after which time he was able to leave his bed. His appetite improved and his general feeling of malaise disappeared, but during convalescence he was bothered by a definite fatiguability and shortness of breath. Also among his

residuals were numbness and paresthesia along the course of the ulnar nerves in both hands. His past history had been entirely negative except that he had contracted dengue fever while serving on Tinian Island during World War II.

Physical examination revealed a temperature of 103° F., rapid pulse and respirations and very few other positive findings. These were entirely confined to his chest with wheezing inspiratory and expiratory rales early in his illness, which later changed to moist, fine inspiratory rales disappearing after coughing. Laboratory studies revealed 4,190,000 RBC, 8,400 WBC with a normal differential. Widal was positive in 1:80 dilution (patient had typhoid vaccine while in military service). Negative agglutinations for tularemia and Q fever were obtained. His sera failed to protect against the viruses of the psittacosis-lymphopathia group, Saint Louis and western equine encephalitis, and were negative for cold hemagglutinins.[4] Complement-fixation for Histoplasma capsulata was four plus in dilution of 1:2 and one plus in dilution of 1:4 on two successive examinations at a 6 week interval. Coccidioides studies revealed the same results.[5] Peripheral blood examinations for the spirochetes of relapsing fever and the parasites of malaria and toxoplasmosis were negative.[6]

His urine was normal. Respiratory capacity was 3.8 liters. Sputum and throat cultures on blood agar and Saboraud's media revealed a normal flora. Direct smears of this material for tubercle bacilli, eosinophiles or other cellular elements were negative.[6] Spinal fluid was not obtained.

Skin tests with coccidioidin in dilutions of 1:1,000 and 1:100 were negative as were those with histoplasmin at 1:100 and 1:10. Intradermal O. T. in a dilution of 1:1,000 was positive. The report of the radiologist [3] on this patient is as follows:

"Three serial postero-anterior films on this individual have been reviewed. The first is not dated but is presumed to have been taken the latter part of September. The second film was made October 8, 1947, and the third was made November 29, 1947. The first film presents a picture almost identical with an acute miliary tuberculosis. The lung fields are uniformly studded from apex to base with minute, discrete infiltrations measuring 2 mm. in diameter. These shadows suggest that the process is of an exudative nature. There appears to be no tendency for confluence of the lesions, and special attention is called to their individual nature. The lesions appear to occur at the bifurcations of the linear chest markings. There is no apparent pleural reaction and there is no involvement of the bronchopulmonary or tracheobronchial lymph nodes. There is a Ghon tubercle in the left costophrenic angle but this is thought to be unrelated to the present pathological process. The diaphragmatic shadows are regular in contour and sharp in outline. The heart is of apparent normal size and contour, and no bony abnormalities are noted.

"Diagnosis: An acute miliary pneumonitis, apparently of hematogenous dissemination but of unknown etiology.

"The subsequent films show an even clearing of the lung fields by absorption, so that the film of November 29, 1947, is practically normal. There is certainly, however, no evidence of replacement fibrosis in the sites of the individual lesions, nor is there any apparent attempt at calcium deposition. There is insufficient evidence on the film of November 29, 1947, to explain the residual dyspnea complained of by the patient."

The chief symptoms of which the patients complained are tabulated (Table 2).

TABLE 2

Symptoms, with Number and Percentage of Patients Exhibiting Each

Symptom	*Number of patients*	*Per cent of patients*
Fever	20	95
Headache	20	95
Coryza	19	94.7
Cough	17	81
Chill	14	67
Sputum	13	62
Nausea	13	62
Sweating	10	47
Vomiting	9	43
Chest pain	8	38
Nuchal tension	8	38
Nervous irritability	6	30
Retro-orbital pain	3	14
Coma	1	5
Neurological disturbance	1	5

In the severe cases the initial temperature reached 103° F. to 105° F. It persisted at a relatively high level for 48 to 72 hours, and dropped by crisis to normal or nearly normal. Subsequent daily afternoon elevations to 101° F. to 103° F. for 3 or 4 days occurred. In the moderate to mild cases the fever was of a lower degree and less typical in its course.

Headache was the presenting complaint in nearly all patients seen. This headache was severe, generalized, and persistent. Temporary relief was obtained from patent remedies and codeine. Several patients developed a post-orbital pain in association.

Coryza with a "stuffed-up" head, dry throat, and occasional rhinorrhea was a very common prodromal sign. Two patients complained that their palates felt "corrugated." None admitted or mentioned sore throats.

The cough was of a hacking type, productive of very little sputum. At the time they were seen only 2 patients were producing enough sputum for examination.

About half the patients had a definite rigor, the others merely a chilly sensation. In those who had the true shaking chills, sweating followed, soaking bed clothing and linens. In all cases the first chill followed within 12 hours of onset of their malaise.

In 7 patients the chest pain was of a sharp constricting type noticeable on deep inspiration at a point under the lower part of the sternum. Another patient stated that his was a sharp, stabbing, pleuritic pain over the left lower anterior ribs which forced him to breathe shallowly for the 3 to 4 days it lasted.

The complaint referrable to the patients' necks was not definite pain or rigidity, but what they described as a tense feeling which did not prevent but rather discouraged movement of the neck and turning of the head.

The nervous irritability was characterized by striking response to the stimulation of noise, touch, and shaking of the bed by involuntary movements of their extremities. One patient became irrational and lethargic and remained semicomatose for about 48 hours. This same patient complained of numbness and paresthesia of both hands along the distribution of the ulnar nerve. This numbness was not confirmed neurologically.

Malaise was complained of generally as was anorexia. Nausea and vomiting followed medication with sulfa and oral penicillin in some patients. No urinary or bowel disturbances occurred.

DIFFERENTIAL DIAGNOSIS

Our differential diagnosis in this outbreak was an extensive one. It ran the gamut of disease entities from the usually suspected to the more exotic and bizarre (Table 3).

TABLE 3

Differential Diagnoses Considered

I. Inhalation of Irritants
   - A. Gases
   - B. Dusts—Pneumonoconioses

II. Pulmonary Infections
   - A. Bacterial
     1. Lobar pneumonia, pneumococcal
     2. Tularemia pneumonia
     3. Bronchopneumonia
     4. Interstitial pneumonia, acute
     5. Bronchiolitis, acute
     6. Acute disseminated hematogenous tuberculosis
   - B. Viral
     1. Primary atypical pneumonia
     2. Influenza
     3. Psittacosis (ornithosis)
   - C. Rickettsial—Q fever
   - D. Fungal
     1. Coccidiodomycosis
     2. Histoplasmosis
     3. Bronchopulmonary moniliasis
   - E. Protozoal—toxoplasmosis

III. Malaria

IV. Dengue fever

V. Relapsing fever

It was the belief of the people of the town that gas inhalation was the basis of the victims' difficulties. Some of the radiologists who viewed the plates felt that the picture could conceivably fit such a diagnosis. Analysis of samples of air from the cave, which consisted of a series of small rooms connected by small apertures, failed to reveal any noxious gases or organic irritants.[7] Two guinea pigs left in the cave for a prolonged period remained perfectly well. We also scouted the possibility of the condition arising from the inhalation of an irritant dust of the material from the cave substance. The rock in the cave analyzed as typical limestone[7] (Table 4).

TABLE 4

Analysis of Rock from Cave

Component	*Per cent*
Magnesium	0.23
Loss on Ignition	38.46
Calcium	60.40
Aluminum and Iron Oxide	0.04
Total Silicates	0.09
	99.22

The content of silicates was less than 0.1 per cent. No arsenic, zinc, beryllium, or other heavy metals were present. We did not examine for the presence of radioactivity.

Among the bacterial infections, lobar pneumonia of the pneumococcal type and tularemic pneumonia were fairly well eliminated by negative bacteriology, agglutination tests, and x-ray picture.

The radiographic picture was regarded by some as consistent with a diagnosis of a bronchopneumonia, an interstitial pneumonia, or an acute bronchiolitis. We were not able to establish a bacterial agent as a cause of any of these. It was suggested that an organism which we do not usually consider pathogenic was at fault. We found a distinct inconsistency in the flora of the sputa and throats of the patients so that it was not possible to implicate any inhabitants. The blood cultures done were negative.

The diagnosis of acute lymphohematogenous tuberculosis has been readily dismissed in spite of the roentgenograms by the conduct of the disease. No acid-fast organisms were obtained from the sputa by direct smear or culture. Only 3 patients had positive tuberculin tests.

Primary atypical pneumonia, influenza, and psittacosis (ornithosis) were considered. The first did not fulfil the x-ray picture of our cases. Studies for cold hemagglutinins were negative. The absence of cross-infection seemed to militate against the diagnosis of influenza as did the peculiar restriction of the disease to the cave workers. No psittacine or columbidian birds were found in or about the cave to indicate the possibility of ornithosis. Protection tests against ornithosis-lymphopathia virus were negative.

Q fever was likewise considered. None of the patients had skin lesions and they all denied having ticks on their clothes or bodies. No ticks were found in or around the cave although undoubtedly there were some on the cattle in the vicinity. Agglutinations were negative.

With the coöperation of many persons and agencies, we were able to do fungus studies. Sputum and throat swabs grown on Saboraud's medium were negative. Repeated skin tests with histoplasmin and coccidioidin down to dilutions of 1:10 and 1:100 respectively were also negative. No material was available for skin testing against Candida albicans.

Complement-fixation for coccidioidomycosis and histoplasmosis was no more revealing than the above case.

Peripheral blood studies for malaria and toxoplasma parasites were negative. No spirochetes of relapsing fever were found in blood or urine. We were unable to obtain complement-fixation for this disease.

No rash was present and other clinical features of this outbreak did not fit the pattern of dengue fever. We were unable to obtain serum protection tests. No *Aedes aegypti* mosquitoes were found although culicines and anophelines were present.

It is evident from the foregoing that we were unable to establish an etiological diagnosis in this outbreak. Our work-up was extensive and we have persisted in following these patients with serial x-ray films. Radiographs have gradually cleared. As previously stated, in all instances the patients still complain of dyspnea on exertion and marked fatiguability. All have, however, returned to their work and studies.

SUMMARY AND CONCLUSIONS

We present here a report of 21 cases of a febrile illness with pulmonary manifestations and a peculiar x-ray film. An extensive differential diagnosis was considered without a definite etiology being established after extremely careful comprehensive study. Reference is made to the only other known outbreak of a similar nature which is recorded in the literature. We conclude from this that we have investigated a new or, at least, a previously inadequately described disease entity.

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Schick Testing and Diphtheria Immunization of United States Troops in Europe

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DURING the winter of 1946–1947, United States troops in Europe who were under 35 years of age were immunized against diphtheria. This report deals with certain features of this large diphtheria immunization experience with adults.

The program was undertaken because of the high diphtheria rates prevailing in the command during the first half of 1946. During this six month period the diphtheria rate averaged 6 per 1,000 per year.

Diphtheria immunization had not been carried out prior to that time, presumably because it was feared that a considerable disability would result from toxoid reaction.

In determining how the program was to be carried out, the following factors were considered paramount:

1. Fluid toxoid leads to many less reactions in adults than alum-precipitated toxoid.
2. Schick-positive persons have a much lower proportion of toxoid reactions than Schick-negative persons.
3. Less than half of the military population was thought to be Schick-positive.

The conclusion was that the number of reactions could be kept at a minimum without sacrifice to the efficacy of the program by immunizing only the Schick-positive persons using fluid toxoid.

This course of action also precluded the poor public reaction which might have followed the "immunization" of over 100,000 Schick-negative persons in whom the procedure was not indicated.

Army regulations in force at that time, but since rescinded, stated that because of "the meticulous care necessary to obtain reliable results," and because of "other inherent difficulties, mass Schick testing will seldom be feasible." This objection to Schick testing was not considered tenable since it could be overcome by a brief course of instruction. A detailed directive was accordingly issued on the "Methods and Principles of the Schick Test and Diphtheria Immunization Using Plain Toxoid." Conferences were held in which the directive was discussed, the mechanics of the Schick test demonstrated, and subjects were exhibited showing reactions to the Schick test and Schick test control in their various stages of development and regression. It is believed that, because of this preparation, the program was subsequently carried out in a reasonably satisfactory manner.

The results of the Schick testing and the occurrence of toxoid reactions were compiled in table form by the doctors doing the work. More information was not solicited because it was realized that the more details asked for, the less reliable the information would be.

SCHICK TEST SURVEY

The Schick test and Schick test

control were carried out using 0.1 ml. (1/50 m.l.d.) of Schick test toxin in one forearm and an equal quantity of heated toxin provided by the same manufacturer in the other forearm.

Because of administrative considerations, only one reading was made. That was done after 96 hours. A skin reaction was considered positive when the area of redness and induration measured 1.0 cm. or more in its greatest diameter.

Because of the fact that the tests were done and results interpreted by a great number of physicians, the strict reliability of the compiled results would be questionable. The results were, therefore, tabulated in two groups. The one group included two large stations at which the program was in reliable hands. The results of this tabulation are given in Table 1. All other returns on hand on an arbitrarily chosen deadline, were included in the other group. They are presented in Table 2.

Referring to Table 1, it will be noted that 29.7 per cent of all persons tested were either Schick-positive or Schick-positive combined.

It had been expected that the percentage of susceptibles would be about 40 per cent. In a Schick test study conducted by the Office of the Surgeon General in 1944 using 1,500 recently inducted soldiers at Camp Ellis, Illinois, and a similar number at Camp Tyson, Tennessee, it was found that 43.7 and 45 per cent respectively gave Schick-positive or combined reactions. (A reaction was considered positive if it was 5 mm. or more in diameter.)

The discrepancy was primarily due to the fact that, in spite of directives to the contrary, most units sent all personnel to the medical installation for Schick testing instead of compiling a list of those whose immunization registers showed no diphtheria immunization within the previous five years. It was estimated that about 30 per cent

TABLE 1

*Results of Schick Tests Performed on 4,697 Soldiers in the European Theater, December, 1946, to February, 1947, Incl.**

Age Groups	Persons Tested	Negative		Pseudo		Positive		Combined		Positive and Combined %
		No.	%	No.	%	No.	%	No.	%	
18–19	1,824	1,286	(70.5)	51	(2.8)	464	(25.5)	23	(1.2)	26.7
20–24	1,400	927	(66.2)	56	(4.9)	399	(28.5)	18	(1.3)	29.8
25–29	829	507	(61.2)	47	(5.7)	250	(30.0)	25	(3.0)	33.0
30–34	448	260	(58.1)	41	(9.1)	138	(30.8)	9	(2.0)	32.8
Over 34	196	114	(58.2)	12	(6.1)	61	(31.1)	9	(4.6)	35.7
Total	4,697	3,094	(65.8)	207	(4.4)	1,312	(27.9)	84	(1.8)	29.7

* Tests and interpretations were made at two large dispensaries by persons considered reliable.

TABLE 2

*Results of Schick Testing 37,474 Soldiers in the European Theater December, 1946, to February, 1947, Incl.**

Age Groups	Persons Tested	Negative		Pseudo		Positive		Combined		Positive and Combined %
		No.	%	No.	%	No.	%	No.	%	
18–19	16,400	12,352	(75.4)	432	(2.6)	3,355	(20.5)	261	(1.6)	22.1
20–24	11,616	8,458	(72.7)	414	(3.6)	2,535	(21.8)	209	(1.8)	23.6
25–29	5,581	3,869	(69.3)	243	(4.3)	1,352	(24.2)	117	(2.1)	26.3
30–34	2,732	1,869	(68.3)	139	(5.1)	667	(24.4)	57	(2.1)	26.5
Over 34	1,145	798	(69.7)	54	(4.6)	275	(24.0)	18	(1.6)	25.6
Total	37,474	27,346		1,282		8,184		662		

* Tests and interpretations were done by a large number of medical officers and the results are accordingly not strictly reliable.

of the command had undergone some active immunization during the previous year. This included hospital personnel, persons in units in which diphtheria occurred, and replacements arriving from the United States since May, 1946. Since Schick testing was not done during this time, the immunizations were carried out on Schick-positive and Schick-negative persons in the proportion in which they were present in the command. If an adjustment is made for these previous immunizations the results of the Schick survey would more closely approach those obtained at Camps Ellis and Tyson.

A more interesting feature than the overall Schick status is the Schick status in the various age groups. Still referring to Table 1, it will be seen that there is a steady increase in the proportion of Schick-positives from the lower to the higher age groups. In the 18–19 year old group 26.7 per cent were Schick-positive or combined reactors whereas in the 30–34 year old group the percentage was 32.8. In persons over 34 years of age the percentage was still higher, viz. 35.7 per cent, but because of the small number of persons in this age group the increase in the percentage of Schick-positives is no longer significant. In a Schick survey of naval recruits Cheever found a similar though more marked rise in Schick-positivity with increasing age.[1]

This result was entirely unexpected. Analyses of case histories had shown that age-specific morbidity rates were higher for the younger age groups. Since this cannot be accounted for on the basis of immunity, exposure suggests itself as a possible explanation.

Since reactions to the Schick test control material depend on a sensitivity acquired as a result of prior experience with the *Corynebacterium diphtheriae* it would seem reasonable that the majority of such reactors would be found among those who are Schick-negative.

In the present survey 6.1 per cent of those tested reacted to the control material. Of these, 4.4 per cent were Schick-negative and 1.7 per cent were Schick-positive. When the calculations are based on the number of Schick-positives and Schick-negatives separately, rather than on the total number tested, it is found that the percentage of control reactors is not statistically different from the distribution of reactors to the Schick test itself. The control reactors constituted 6.2 per cent of the Schick-negatives and 5.8 per cent of the Schick-positives. These percentages should probably be greater. The reactions were observed only once and some reactions which disappeared before the 4th day were probably not recorded. This error would, however, operate the same for both Schick-positive and Schick-negative groups. The percentage of subjects sensitive to the control material was only about one-half or one-third of that expected. A possible explanation is that the materials used were very low in their content of reaction-producing substances.

There is a rather steady rise in the percentage of reactors to the control materials both in the pseudo and in the combined reactors with increasing age. In the 18–19 year age group 4.0 per cent of those tested reacted to the control material, whereas in the over 34 year age group the percentage was 10.7. This is in accordance with the frequently made observation that older persons are especially apt to exhibit toxoid sensitivity. Although the Schick-negative status and sensitivity both depend on previous experience with the diphtheria organism (or its products), these two factors seem to have a reciprocal rather than a direct relationships to each other throughout the age groups.

Table 2 is similar to Table 1, except that it is based on reports of varying degrees of reliability. Although the

percentage of Schick-positives is 5 to 10 per cent lower in the various age groups, the other results in general have the same characteristics found in Table 1.

IMMUNIZATION PROGRAM

Diphtheria immunization was carried out on the Schick-positive and Schick-positive combined reactors according to the following schedule:

0.1 ml. as test dose, subcutaneously
0.5 ml. 48 hours after test dose
1.0 ml. 3 weeks after previous dose
1.0 ml. 3 weeks after previous dose

Instructions required the discontinuance of injections when a severe reaction occurred. A severe reaction was defined as "local edema or induration more than 6 cm. in diameter or a marked constitutional reaction with fever over 101° Fahrenheit."

A tabulation of the reactions occurring during the immunization of Schick-positive and Schick-positive combined reactors is given in Table 3.

After the 0.1 ml. dose 3.1 per cent were excused from further doses. Of these who took the 0.5 ml. dose those excused constituted 2.4 per cent. Reactions to the third and fourth doses (1.0 ml.) were substantially less frequent.

In the Schick-positive combined group, the proportion excused was two to three times as high for each injection as in the Schick-positive group.

Because of the absence of strict administrative control over those being immunized, it may be that not all the toxoid reactors were recorded. The men were not required to report for observation after injection, and it is likely that at least some of those who had severe reactions did not report the fact but merely avoided subsequent injections.

In order to determine what proportion had reactions severe enough to be admitted to the hospital, a check was made of the admission records of two hospitals serving about 40,000 men. In that group, there should have been at least 10,000 undergoing immunization. Only two admissions for diphtheria toxoid reaction were found. Since admission to quarters was not extensively practised, it is doubtful that many more serious disabilities occurred.

Following the immunization program, diphtheria rates were strikingly lower than before. During the 12 month period April, 1947, to March, 1948, following the program, the rate was 0.7 per 1,000 as compared with a rate of 4.8 for the 12 month period immediately preceding the program. Practically all cases that have occurred since the completion of the program were in those who had not been im-

TABLE 3

Reactions to Fluid Diphtheria Toxoid During the Immunization of Schick-positive and Schick-positive Combined Soldiers in the European Theater December, 1946, to February, 1947*

Dose in ml.	Schick-Positives			Schick-Positives Combined		
	No. persons receiving dose	Those having a reaction		No. persons received dose	Those having a reaction	
		No.	%		No.	%
0.1	11,024 †	338	3.1	647	62	9.6
0.5	9,562	230	2.4	474	30	6.3
1.0	7,688	109	1.4	359	12	3.3
1.0	5,672	6	0.1	235	0	0

* Reaction defined as "local edema or induration more than 6cm. in diameter or a marked constitutional reaction with fever over 101° Fahrenheit."

† The number of persons receiving each dose varied considerably because of redeployment, transfer to other units, incompletion of series when the data were collected, and other administrative reasons.

munized at all or had not completed the immunization series because of administrative neglect. None whose series was incomplete because of toxoid sensitivity contracted the disease. At least two who were reported as Schick-negative contracted the disease.

The reduction in the diphtheria incidence in troops was undoubtedly also influenced by the decreasing incidence among the German civilian population. The German civilian rate for periods corresponding to those mentioned above was 2.6 and 1.6 per 1,000 respectively. This was a drop of 39 per cent as compared with a drop of 85 per cent for troops.

SUMMARY AND CONCLUSIONS

There was a very high diphtheria morbidity in United States troops in Europe during 1946. Schick testing showed that about 30 per cent of the persons under 35 years of age were Schick-positive or combined reactors.

The proportion of Schick-positives had been reduced by active immunization carried out during the previous year.

There was a definite rise in the percentage of Schick-positives from the lower to the higher age groups. This was perhaps due to a smaller proportion of persons in the higher age groups who were immunized in childhood, due to the existence of a longer interval in the older age groups during which immunity acquired in childhood could have worn off, or due to a reduction of the frequency of anamnestic booster action because of the more sedentary habits of older age groups.

Reactions to the control material occurred with the same frequency in the Schick-negative and Schick-positive groups. There was an increase in the proportion of pseudo and combined reactors from the lower to the higher age groups.

Schick-positive and Schick-positive combined reactors were immunized using fluid, formol, toxoid according to the following schedule: 0.1 ml., 0.5 ml., 1.0 ml., and 1.0 ml. The 0.5 ml. dose was given 2 days after the 0.1 ml. test dose. The other doses were given at 3 week intervals.

In Schick-positive-control negative persons severe reactions consisting of "local edema and induration more than 6.0 cm. in diameter or a marked constitutional reaction with fever over 101° Fahrenheit" occurred in 3.1 per cent of those taking the first dose and less frequently thereafter. Reactions in the Schick-positive-control positive group were about three times as frequent.

The percentage of persons having reactions sufficiently severe to require hospitalization was extremely small—less than 0.1 per cent.

Diphtheria immunization of Schick-positive and Schick-positive combined adults using fluid toxoid according to the schedule given above is a practical and safe procedure.

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Sanitary Significance of Cocci in Swimming Pools

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THERE has long been a feeling among sanitarians and laboratory workers that the test for the coliform group of organisms is not an adequate index of the safety of swimming pool water, since this index does not take into consideration the possibility of contamination from the skin and upper respiratory tract of the bather.

The streptococci have been suggested and investigated as indicators of pollution. Mallmann and associates[1-4] proposed a method of isolation, and they and others[5] gave evidence to show that these organisms fluctuate with the bathing load and are resistant to chlorine. *Standard Methods for the Examination of Water and Sewage*[6] in the 8th and earlier editions gave tentative and optional directions for the determination of streptococci by making microscopic examinations of the sediment from lactose-broth fermentation tubes. In the 9th edition, no reference is made to streptococci in the section on bacteriological control of swimming pools.

The use of *Neisseria catarrhalis* as an index of pollution has been proposed by Tapley and Jennison.[7] The isolation of *Staphylococcus albus* from swimming pools was reported by Stokes,[8] but it has not been considered as an indicator organism.

Methods for classifying the streptococci have been outlined by Sherman.[9] The normal fecal streptococci were studied by many workers,[10-15] and classed as a central *Streptococcus fecalis* type and variants, some undoubtedly salivary types; and some strains similar to *Streptococcus pyogenes*. The low invasive powers of the enterococcus and its wide distribution have been noted.[16-18] The incidence of various types of streptococci in the nose and throat has been determined under diverse conditions.[19-21]

Better methods for the isolation of the streptococci have become available recently through the use of sodium azide[22-25] as an inhibitory agent for Gram-negative rods. It was used in a 1–5,000 concentration by Mallmann[22] for the detection of streptococci in sewage, and by other workers[26, 27] for the isolation of enterococci from various waters. The present authors devised a new liquid medium containing sodium azide for use in this survey.

The study here reported was made to determine the incidence of streptococci in swimming pools in Kansas during the summer seasons; to correlate this information with incidence of coliform organisms and the sanitary data; and to classify the streptococci isolated, and determine their resistance to chlorine.

Tests were made during the summers of 1942 and 1943. At those times the junior author was engaged in the inspection of all pools in Kansas while employed by the State Board of Health, thus affording an opportunity for the collection of samples under actual operating conditions. The data collected

can be compared as to type of pool, equipment and operation, chlorine residual and pH at the time the sample was collected, and bacteriological quality.

In the course of the routine inspection of the pools, samples of water were collected and shipped to the State Water and Sewage Laboratory where colony counts and the determination of coliform organisms were made according to Standard Methods.[6] At the pool-side, samples to determine the presence of streptococci were taken by adding 10 ml. of the water to a bottle containing 10 ml. of double strength sodium azide medium. It immediately neutralized the free or combined available chlorine that might be present.

The medium has the formula:

	Per cent
Proteose peptone No. 3	2.0
Dextrose	0.1
NaCl	0.5
Sodium azide	0.02

pH 6.8-7.0 Sterilize in the autoclave

It supported a luxuriant growth of all the strains of streptococci and staphylococci tested. They included the hemolytic strains Lancefield's Groups A, B, C, D, E, F, G; *Streptococcus viridans; S. salivarius, S. fecalis, Staphylococcus aureus,* and *S. Albus.* With samples of swimming pool water and of similar mixed flora, coliform organisms and other rod forms did not develop. The medium has been found useful for the isolation of streptococci and staphylococci from a variety of sources, such as from waters both heavily polluted and of good quality, and from skin, nasal, and throat swabs.

For use in the survey here reported, the medium was prepared in double strength. Bottles inoculated in the field were shipped or carried to the laboratory where they were incubated at 37° C. Growth was indicated by turbidity and appeared in 1 to 3 days in 80 per cent of the cases, rarely as late as 7 days. Negative samples remained clear and were incubated from 10 to 14 days before being discarded.

Samples showing growth in the sodium azide medium were streaked on plates of proteose No. 3 hemoglobin agar, from which colonies were picked for further study. Only Gram-positive cocci developed in the sodium azide medium. In the majority of cases, there was one strain of streptococcus alone; occasionally there were two strains, and in 33 cases out of 107 examinations of turbid samples a staphylococcus was present either alone or with a streptococcus. Contaminations, which were from spore-formers, were rare and were observed only after prolonged incubation of the primary sample.

Ninety-two different pools were inspected and 179 samples collected during two summers. Forty-nine pools were the fill-and-draw type, which is generally unsatisfactory from a sanitation standpoint as it is difficult to maintain the water in good physical condition and with a constant chlorine residual. Forty-three were recirculating pools, which give better opportunity for control of water quality.

The difference in pool type was clearly reflected in the bacteriological analyses. Of 88 samples from fill-and-draw pools, 28, or 31.8 per cent, showed the presence of coliform organisms; of 91 samples from recirculating pools, only 4, or 4.4 per cent, showed coliforms. For streptococci, of the 88 samples from fill-and-draw pools, 55, or 62.5 per cent, were positive as contrasted with 22, or 24.2 per cent, of the samples from recirculating pools. For staphylococci the corresponding figures were 6.8 and 29.7 per cent respectively.

Coliform organisms were present 36.4 per cent of the time when streptococci were recovered, and only 3.9 per cent of the time when they were not found. Staphylococci were isolated 27 times

from pools negative for streptococci and 6 times from streptococcus-positive samples. They might have been present and overgrown or overlooked in other streptococcus-positive samples.

No chlorine was present at the time of collection of the sample in 67.5 per cent of those showing streptococci and in only 23.5 per cent of the samples negative for these organisms. In the cases with chlorine present, orthotolidine readings showed that free available chlorine was present in amounts varying from 0.05 p.p.m. to 0.8 p.p.m., or combined available chlorine in amounts from 0.4 p.p.m. to 0.8 p.p.m.

Certain of the pools are outstanding for excellence of equipment and operation and are eligible for special certification by the rules of the State Board of Health. The results of 26 analyses from 11 certified pools showed that the pool water was in acceptable condition, as coliform organisms were not found; residual chlorine was present each time, although only 10 times did it reach the required 0.4 p.p.m.; and the pH was in the correct range. Yet streptococci were found 3 times and staphylococci 8 times in the 26 tests.

In studying the streptococci recovered, use was made of the tests outlined by Sherman[9] as determining the primary divisions of the genus. They include determinations of hemolytic type by Brown's[28] method; growth at 45° C. and 10° C.; in broth containing 6.5 per cent sodium chloride; in broth adjusted to pH 9.6; in milk containing 0.1 per cent methylene blue; and in milk to observe strong reduction of dye. The serological grouping by the Lancefield[29] precipitin test was determined for a part of the cultures, as was colony type on agar containing 5 per cent sucrose.[30] As a basis of comparison for the study, five known cultures were included: *Streptococcus pyogenes* and *S. zymogenes* which were Lancefield Group A and Group D respectively; *S. fecalis* from a stool culture; *S. salivarius* from saliva and another organism of the viridans division isolated from a normal throat. The results of these tests are shown in Table 1, in which strains showing similar characteristics are grouped together.

Morphologically the organisms isolated in the survey were Gram-positive cocci grouped as pairs and in short chains. The biological characteristics class them as enterococci. Of the 79 strains studied, 52 showed biological reactions typical of *S. zymogenes* and *S. fecalis*. Twenty-six strains showed variations from the control enterococcus cultures as follows: 3 strains did not grow at 10° C. and 6 at 45° C.; 6 did not develop in alkaline medium; 9 would not tolerate 6.5 NaCl; 16 failed to grow in 0.1 per cent methylene blue, and 23 were negative for strong reduction.

Studies of hemolytic type were interesting but of no great value in classification. In poured plates of horse blood agar, no colonies showing the beta type of hemolysis were observed among the cultures isolated. Seventy-two of the 79 strains produced the alpha prime type of hemolysis. They exhibited considerable variation as to width and completeness of the hemolytic zone produced, width and darkness of the zone of red blood cells around the colony, time of appearance of the characteristics, and amount of change during the succeeding periods of incubation and refrigeration. Seven cultures showed alpha hemolysis; the 6 of them classed as enterococci were in the groups atypical for biological characteristics.

All of the cultures grew abundantly on proteose No. 3 hemoglobin agar. Strains typical of *S. fecalis* formed opaque colonies 1 mm. in diameter. A smaller number of strains from the atypical group produced a distinct green coloration, differing in amount and in time of appearance.

The precipitin reaction by the

TABLE 1

Characteristics of Streptococci Isolated from Swimming Pools

			Growth at		Growth in Presence of					
		Hemolysis	10°C.	45°C.	6.5% NaCl	pH 9.6	0.1% methylene blue	Strong reduction	Mucoid colonies on 5% sucrose agar	Lancefield Group
Control Cultures										
Strep. pyogenes		beta	−	−	−	−	−	−	−	A
Strep. salivarius		alpha	−	−	−	−	−	−	+	
Viridans Division		alpha	−	+	−	−	−	−	−	
Strep. zymogenes		beta	+	+	+	+	+	+	−	D
Strep. fecalis		alpha prime	+	+	+	+	+	+	−	D
Cultures from pools										
No. of Strains										
Enterococcus Div.										
I	17	alpha prime	+	+	+	+	+	+	−	D
	7	"	+	+	+	+	+	+	−	D & K
	1	"	+	+	+	+	+	+		D & G
	1	"	+	+	+	+	+	+		G & K
	1	"	+	+	+	+	+	+		None
	25	"	+	+	+	+	+	+	−	
II	2	"	+	+	+	−	+	+	−	
III	4	"	+	+	+	+	+	−	−	
IV	4	"	+	+	+	+	−	−	−	
	1	"	+	+	+	+	−	−	−	None
V	5	alpha	+	+	+	+	−	−	−	
VI	1	alpha prime	+	+	−	−	+	+	−	None
	1	"	+	+	−	+	+	−	−	
	1	"	+	−	−	+	+	−	−	
	1	"	+	−	+	+	−	−	−	
	1	"	+	−	−	+	−	−	−	
	1	"	−	+	−	−	−	−	−	
	1	"	+	−	−	+	+	−	−	None
	1	"	−	+	−	−	−	−	−	None
	1	"	−	−	−	+	−	−	−	None
	1	alpha	+	−	−	−	−	−	−	None
Viridans Division										
	1	alpha	−	+	−	−	−	−	−	

Lancefield technique was determined for 33 of the cultures. Of these, 27 were typical enterococci and read as follows: 17 Group D; 7 cross-reactions for Groups D and K; 1 for Groups D and G; 1 for Groups G and K; and 1 gave no precipitate. Six of the atypical strains were tested and gave no precipitate.

Only 1 strain showed the reactions of a streptococcus of the viridans division. It produced the alpha type of hemolysis, grew at 45° but not at 10° C., reduced methylene blue slowly, was negative in the tolerance tests, and did not produce mucoid colonies on 5 per cent sucrose agar.

No strains of *S. salivarius* were found in the group studied. That this organism was recovered from three pools is suggested by preliminary tests of cultures that did not survive storage long enough to be classified. Later studies of 17 samples from a single recirculating indoor pool yielded *S. salivarius* twice and atypical enterococcus strains three times.

In many of the 179 analyses, chlorine residuals were adequate. Streptococci were isolated once from water having 0.5 p.p.m. free chlorine and a pH under 6.8; once with 0.4 p.p.m. residual and pH 7.6; and once with 0.8 p.p.m. combined residual chlorine and pH 7.6. Staphylococci were found in the presence

TABLE 2

Minutes Required to Produce 100 Per cent Kill of Various Bacteria by Different Amounts of Free Available Chlorine at Room Temperature and pH 7.0 to 7.2

		Free available chlorine in p.p.m.				
Control Cultures		0.1–0.2	0.2–0.4	0.4–0.6	0.6–0.8	0.8–1.0
Beta hemolytic Streptococci:						
Group A		2.5	<2.5	<2.5	<2.5	<2.5
Group D		<5	<5	<5	<5	<5
Strep. fecalis		>120	120	90	120	60
Strep. salivarius		>30	>30	10	5	
Viridans Division		120	60	60	10	10
Staph. 209		>120	60	60	60	10
Esch. coli		<5	<5	<5	<5	<5
A. aerogenes		30	10	5	<5	<5
Cultures from Pools						
Typical Enterococci						
I	1.	>120	120	60	60	10
	2.	>180	>180	60	45	10
	3.	30	60	<5	<5	<5
	4.	>120	120	60	30	30
	5.	120	90	30	60	30
	6.	90	90	90	30	60
	7.	90	30	30	10	5
Atypical Enterococci						
II	1.	120	120	60	30	30
	2.	>120	120	20	30	
IV	1.	60	90	30	5	5
VI	1.	30	20	10	5	

of 0.5 p.p.m. and 0.1 p.p.m. free chlorine, and 0.8 p.p.m. combined chlorine.

The resistance of various organisms to free available chlorine is important in swimming pool control. Therefore, chlorine tolerance tests were made for 11 of the strains of streptococcus isolated from pools in this study, 5 control strains of streptococcus and 1 strain each of *Escherichia coli* and *Aerobacter aerogenes,* isolated from untreated surface water, and of *Staphylococcus* 209, the F.D.A. strain used for testing disinfectants. Tests were made in chlorine-free, chlorine-demand-free water after the method of Butterfield and coworkers,[31] and the free available chlorine was checked by the orthotolidine-arsenite method of Hallinan.[32]

In Table 2 are presented the results of tests made at room temperature in distilled water buffered to a pH of 7.0 to 7.2. Comparing a series in which the chlorine content was 0.6 p.p.m. at the beginning of the experiment and not less than 0.4 p.p.m. at the end, it is shown that under those conditions the control strains of beta hemolytic streptococci, Group A and Group D, were killed almost immediately. The control strain of *S. fecalis* survived 1 hour but not 1½ hours. Of 7 similar strains isolated from pools, 3 survived an hour or more and only 1 was killed in less than 5 minutes. The 4 atypical enterococcus strains survived from 5 to 30 minutes. *S. salivarius* survived 5 minutes but not 10 minutes; another control strain of the viridans group survived 30 minutes. *Staphylococcus* 209 survived 30 minutes. *E. coli* and *A. aerogenes* were killed almost immediately, none surviving 5 minutes' exposure.

A more limited experiment of the survival of these organisms in chlorine-free sterilized tap water showed that a Group A streptococcus survived 1¼ but not 4 hours. *S. salivarius* survived for 4 but not 7 hours. The enterococci, both typical and atypical strains, survived 12 hours or longer, 1 strain being present after 4 days. Three strains of

staphylococci survived for 7 but not 12 hours.

A later study on a recirculating pool demonstrated the fact that proper chlorination will control the organisms present. From a sample collected one morning containing no chlorine, coliforms, staphylococcus, and 1 strain each of *S. salivarius*, and an atypical enterococcus were isolated. Chlorination was started and by the time the free residual chlorine had reached 0.4 p.p.m., the streptococci and coliforms had disappeared. The pool was in use during the day; staphylococci were isolated at intervals, but disappeared after a longer period of chlorination.

The presence of coccus forms on the skin of the potential bathers was also investigated. Thirty-one cultures from 18 persons were made by rubbing small areas in the cubital, axillary, perineal, and inguinal regions and the abdominal area with moist sterile swabs which were then incubated in tubes of sodium azide broth, from which isolations were subsequently made. Staphylococci were recovered from every swab (37 strains). Streptococci were recovered every time from the perineal region and 3 times, with 5 strains, from 10 swabs from the inguinal region. Of the 22 streptococcus strains thus isolated, 10 could be classified as *S. fecalis*, 10 as atypical enterococci, and 2 as *S. salivarius*. None of the strains of staphylococci isolated showed the characteristics of pathogenic strains.

SUMMARY AND CONCLUSIONS

It is noteworthy that no streptococci of the beta hemolytic type were isolated in this study. That they will grow readily in the primary medium used was demonstrated in the laboratory. Their low resistance to free available chlorine indicates that they would survive but a short time after being introduced into a properly chlorinated pool.

Of 79 strains of streptococci isolated from swimming pools, 52, or 65.8 per cent, can be classified as *Streptococcus fecalis*. Their ability to grow under adverse conditions—provided by high and low temperatures, alkaline medium and high salt content—seem consistent with their high rate of survival. This is also shown by their resistance to chlorine, as strains picked at random were resistant to 0.4 to 0.6 p.p.m. free available chlorine from 30 minutes to 1 hour, under the conditions of the test.

Twenty-six strains were similar to *S. fecalis* in only part of their characteristics. They may be considered as more closely related to the enterococci than to any other division of the streptococci. Tests for the temperature limits of growth and for growth in alkaline medium were found to be the most reliable in classifying the enterococci.

Typical *S. fecalis* strains were classified as Type D by the Lancefield technique; atypical strains could not be typed.

That *Streptococcus salivarius* may be present in swimming pool water would be expected. No strains were recovered in this survey, although their presence was suggested by the preliminary tests from three pools. This organism was shown to be killed by 0.4 to 0.6 p.p.m. free available chlorine in 10 minutes or less.

In 179 analyses from 92 swimming pools, streptococci were recovered 83 times, and coliform organisms 32 times.

Pools equipped for recirculation and continuous chlorination of the water were shown to be superior to pools of the fill-and-draw type from the viewpoint of water quality.

From the results of this work, it can be concluded that a standard requiring the absence of streptococci from swimming pool water is more stringent than that requiring the absence of coliform organisms. And it is our opinion, based on public health experience, that this additional requirement is not necessary.

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The Origins of Public Health in the United States

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DURING the second half of the 19th century the United States changed from a predominantly agricultural and rural to an industrial and urban civilization. The rise of the city forced upon the attention of the American people many problems which previously they had largely neglected; among these was public health. Spurred by social necessity and motivated by humanitarian idealism, economic and life-saving benefits, and increased popular faith in the value of science, public health officials and public spirited laymen advanced municipal public health practices from almost nothing to a vigorous and useful function of local government.

Prior to the Civil War sporadic attempts were made to protect the public against infectious diseases by governmental action. Massachusetts Bay Colony, for example, set up quarantine regulations as early as 1647 when news arrived of a "great mortality" in the West Indies.[1] Petersburg, Va., set up what was probably the first board of health in 1780, and New York, Baltimore, and Boston took similar action in the 1790's.[2] The outstanding *Report* of the Massachusetts Sanitary Commission in 1850, resulting from a survey undertaken by Lemuel Shattuck, reviewed the past history of sanitation and envisaged a remarkably comprehensive system of state public health administration far in advance of its time.[3] In 1857 Wilson Jewell of the Philadelphia Board of Health arranged the first of four annual meetings of the National Quarantine and Sanitary Convention,[4] but this promising organization was discontinued when the Civil War broke out. In the field of infectious diseases, effective methods of smallpox prevention, though not widely applied, had slowly been developed: inoculation and, later, vaccination had long been striving for recognition, and in addition laws requiring quarantine, notification, isolation in "pesthouses," and disinfection had found their way into the statute books and city ordinances. But despite these glimmerings of future light, little had in fact been actually accomplished prior to the Civil War. Typical was the board of health organized in New Haven, Conn., in 1806: it confined itself largely to matters of quarantine and nuisance removal; in some years when the town was generally healthy, it did not bother to meet.[5]

Meanwhile, in England where the advent of the Industrial Revolution in the 18th century was already posing problems of urban health, steps were being taken which were to have a great influence on the United States. In London, effective legislation to end the gin drinking menace in 1751, improved care of parish children, extension of medical practice among the poor, together with street paving, better drainage and scavenging, and increased water supplies helped to lower the death rate markedly.[6] More significant were the investigations initiated in 1838 by Edwin Chadwick, a member of the British Poor Law Commission, on the relations of poverty and disease, culminating in the famous *Gen-*

eral Report on the Sanitary Condition of the Labouring Population of Great Britain in 1842. Presenting a picture of the filth and degradation of the city poor, Chadwick blamed their high mortality rate directly on "atmospheric impurities produced by decomposing animal and vegetable substances, by damp and filth, and close and overcrowded dwellings." He further declared that, when such conditions were removed "by drainage, proper cleansing, better ventilation, and other means of diminishing atmospheric impurity," epidemic and endemic diseases were abated or disappeared.[7] Pointing out the economic and moral value of good health, Chadwick recommended sewerage, refuse removal from houses and streets, and better water supplies. Placed before Parliament, this report led to a series of investigations and acts which gave England by 1848 a public health administration superior to anything the United States was to achieve for many years.[8]

In the United States, 1865 marks the date of an epochal step. In that year the Citizens' Association of New York investigated sanitary conditions in the city, and blamed the high death rate from preventable disease in large part on the lack of any satisfactory health organization. Primarily as a result of this group's report, the New York Metropolitan Health Law in 1866 established a board with wide powers, and its success in dealing with a cholera threat in its first year of existence greatly helped to consolidate public support.[9] Other cities, too, were founding or reorganizing their boards, and by 1890 it was exceptional for any city to lack one.[10]

Until the 1880's action taken by these boards was based largely on the etiological theory implicit in Chadwick's report of 1842. Despite the pioneer research of a few men such as Peter Ludwig Panum and John Snow, the majority of doctors in 1865 held to the filth or "pythogenic" theory of epidemic disease causation. Although the contagious character of smallpox was generally acknowledged, such "zymotic" diseases as cholera, typhoid fever, yellow fever, and diphtheria were attributed to "miasms" or minute particles of morbific matter entering the body through the lungs. Decaying and decomposing organic matter was thought to be their chief source, and the belief was backed up by epidemiological evidence. On the basis of these assumptions, public health groups recommended certain procedures whose chief feature was environmental sanitation. Against diseases like cholera, typhus, and typhoid the methods were helpful and the theory was reinforced. Since the supposed miasms entered the body with the breath, the first requisite for healthful living was thought to be pure air. The obvious solution was to equip houses with good ventilation, to clean up streets and alleys, to remove refuse, to construct sewerage, and to provide a pure and plentiful water supply, essential to cleanliness. Proper drainage was considered of vital importance to prevent the production of miasms in moist soil, and the advocates of street paving received support from health officials anxious to prevent contamination of the soil.

In line with this theory, American cities developed their water supplies extensively. In Boston the first "Water-Works Company" was set up in 1652, the first important one in 1848. The first Croton water entered New York in 1842. In 1825 a total of 32 water works were in operation; in 1865, 162; in 1880, 598; in 1890, 1,878.[11] But while the quantitative aspect of the water-supply problem was being solved during the period from 1860 to 1890, the etiological criterion of decaying organic matter fostered by the pythogenic theory of disease led to a widespread and unfortunate belief in the self-purification of running water. Except for taste, color, odor, and

clarity, chemical analysis to determine the amount of organic matter present was ordinarily the sole test of the purity of water, while filtration, except to make the water more palatable, was neglected. The technique in vogue had some value, of course, since a large amount of sewage increased the amount of organic matter and the danger of water-borne diseases, yet the two were not necessarily interrelated. Extensive dilution and oxidization of organic material meant that a comparatively short distance below a sewer outlet there might be, so far as chemical tests could indicate, nothing to fear from a river which actually contained infectious bacteria, while the danger from an isolated case of typhoid on a thinly inhabited watershed was completely passed over. Thus it was that in 1873 the president of the New York Board of Health, a chemistry professor at Columbia, advocated lakes or rivers for city water supplies, declaring that, "although rivers are the great natural sewers, and receive the drainage of towns and cities, the natural process of purification, in most cases, destroys the offensive bodies derived from sewage, and renders them harmless."[12] There was, in fact, an increased use of rivers and lakes in preference to wells for water supplies, though convenience rather than medical theory was probably the chief reason, and some attempts were made to decrease pollution. In Massachusetts, for example, an act of 1878 forbade pollution within twenty miles of any water intake.[13] While Chicago continued to use Lake Michigan for both water supply and sewage disposal, in 1867 it began drawing some of its water through the first of several tunnels extending out under the lake.[14] These steps were exceptional, however, and the use of sewage-polluted rivers was common, while several cities besides Chicago—Milwaukee, Duluth, Buffalo, Cleveland, and others—drained their sewage into the same lake from which they drew their water.[15] In 1883 a group of Philadelphia citizens complained that the city water, mostly drawn from the Schuylkill River without any purification, was at times so bad that it was "not only distasteful and unwholesome for drinking, but offensive for bathing purposes."[16]

According to the pythogenic theory, adequate sewerage was no less important to good health than a pure and abundant water supply. Fearing the emanations from decomposing organic matter as progenitors of zymotic disease, the miasmatists advocated drainage to get rid of human filth and household and industrial wastes. They emphasized good engineering, since leaky sewers by polluting the soil caused noxious exhalations of ground air and excessive dampness, both considered dangerous to health. Proper drainage would also get rid of the sewage quickly before putrefaction could set in. Of special concern were the much discussed effluvia released by decomposition, the so-called "sewer gas." The list of diseases which it was supposed to cause reads like an account of the therapeutic claims of the most extravagant nostrum monger. Consequently sanitary experts also deemed well designed and carefully installed plumbing essential to prevent the gas from escaping into houses. Along with disinterested publicists, plumbers and plumbing companies did their bit to make their product a panacea.[17] Sewerage development, while it advanced during the 1860's and 1870's, lagged behind the increase in water supplies, since it lacked the latter's added value for fire protection and industrial use. Nevertheless, the number of urban communities with sewerage rose from only about 10 in 1860 to approximately 200 in 1880.[18] Even in these cities, however, privy vaults continued in widespread use, especially in the poorer sections, and only a small proportion of the streets were sewered. In 1877 Massachusetts enacted the first

state law for plumbing inspection, but not until 1881 did Lawrence, Mass., become the first city to adopt a complete plumbing code.[19] Meanwhile, beyond occasional relocation of outlets—little help to cities downstream—almost nothing was done toward proper sewage disposal.

The demand for housing reform, in so far as it was connected with the public health movement, was also inspired during the 1860's and 1870's by the filth theory of disease. All the factors which worried the sanitarians—polluted soil, bad air, and contaminated water—were multiplied by the crowded and filthy conditions of many of the dwellings of the urban poor. Overcrowding, defective drainage, malodorous privy vaults, improper refuse disposal, damp walls and wet cellars, evil working conditions, darkness, insufficient water supply, dirty and unpaved streets, and lack of bathing facilities all contributed to make the American slums prolific sources of disease. In New York, where the conditions were the worst in the nation, public spirited individuals and organizations concerned with the sanitary condition of the city and the welfare of the poor frequently agitated for reform. The Association for Improving the Condition of the Poor, a charitable society formed in 1843, took up the question in 1846. The first tenement house bill, product of two legislative commissions in 1856 and 1857, contained some able provisions but failed to pass. An investigation by the Citizens' Association in 1865 brought on the first tenement house law two years later. Under its authority the board of health in 1869 ordered 46,000 windows cut in dark rooms, but it soon became apparent that the law was inadequate. Further agitation and investigation brought a new law in 1879 which made matters worse, if anything, by establishing the "dumb-bell" tenement with its narrow, noisome airshaft. The discretionary power given the board of health to dispense with certain good features combined with an insufficient inspection force to give powerful landlords the opportunity virtually to nullify the law.[20]

In relation to water supplies, sewerage, and housing, the pythogenic theory, when applied, proved helpful, but its inadequacy was effectively demonstrated during the frequent yellow fever epidemics which swept the South. As late as 1877, Henry M. Lyman, a professor at Rush Medical College, declared that while yellow fever could be imported and spread by contagion, it originated from a miasm formed by the decomposition of warm, moist human filth and thus could arise spontaneously wherever such conditions prevailed.[21] In the epidemic year of 1878 the American Public Health Association devoted almost its entire meeting to this problem. The majority had by then come to believe that the disease was in some manner contagious, though of course the method of transmission was as yet unknown.[22] Courageously if somewhat naively, in view of the commercial implications, Samuel Choppin, president of the Louisiana Board of Health, recommended absolute nonintercourse from April to November with ports where yellow fever was indigenous.[23] The following year, however, the merchants of New Orleans founded a voluntary sanitary organization whose activity was concerned almost entirely with environmental sanitation,[24] and the epidemic prompted Memphis to organize an efficient board of health and to build a sewerage system and water works.[25]

Although the filth theory of disease remained the most prevalent basis for public health activity during the 1870's, it was already undergoing modification by the influence of new theories developed by European medical research. The theory of contagion had, in fact, never been completely discarded. Quarantine and to a lesser extent isolation continued to be used for many diseases

besides smallpox. Moreover, certain epidemiologists were laying a firm basis for the development of the contagion theory. Peter Ludwig Panum's study of measles in the Faroe Islands in 1847, John Snow's publications on cholera in the 1850's, and William Budd's work on typhoid fever beginning in 1856 indicated clearly the communicable nature of those diseases. To put the control of epidemic disease on a firm basis, however, the contagion theory had to be conclusively established by the germ theory of disease. In the 1850's Louis Pasteur began his studies of fermentation. Further milestones came in 1870, with the publication of Pasteur's *Etudes sur les maladies des vers à soie,* and in 1876, when Robert Koch showed conclusively that a specific bacillus could cause anthrax. In the following decade, greatly aided by Koch's development of the solid culture method in 1881, new discoveries followed one another in rapid succession, definitely establishing the germ theory.

As is so often the case, the implications of the new science of bacteriology were not at first fully perceived. Nursed in the filth theory, many public health advocates began to look on decaying organic matter as a breeding ground for germs instead of miasms. Studies showing the high bacterial content of dust arising from municipal highways were used to bolster arguments for street cleaning. In 1891 a committee of the American Public Health Association reported that the lax collection of garbage was a great danger to the health of the nation, that "Heaps of garbage continue to be disease-breeders, furnishing the proper conditions for the rapid growth and development of any disease germs which may lodge therein." Man, the committee complained, goes on piling up excrementitious matter "until the earth, water, and the very air are charged with death-producing elements. . . ."[26] While no one would deny that efficient garbage collection is beneficial, the recommendations thus made were still, in effect, based on a modified filth theory of disease.

Gradually, however, the new etiological theory was more firmly grasped, and its effects became noticeable in board of health activities. For many years epidemiologists in both Europe and the United States had been publishing studies indicating that typhoid fever, for example, was often transmitted by water supplies contaminated with the excreta of infected persons. With the growth of the germ theory and the discovery of the typhoid bacillus in 1881, these past studies took on new meaning, and future investigators could direct their attention to the specific causative agent of America's most prevalent waterborne disease. A penetrating analysis by the State Board of Health of a typhoid epidemic in Plymouth, Pa., in 1885[27] helped to spur an interest already reviving among the members of the American Public Health Association and a small part of the general public in sewage-polluted water. Realization of its danger, reinforced by high typhoid mortality rates in cities using such water, provoked a discussion of new remedies and new testing methods to fit the new theory. Chemical analysis was called inadequate and use of any sewage-polluted river as a water supply condemned.[28] Increasingly, American cities attempted to diminish pollution of their sources of water. In Chicago, for example, the previous policy of building tunnels continued, but it was not until 1892 that the last of the shore intakes was shut off, dropping the typhoid death rate from a high of 174 per 100,000 in 1891 to 54 per 100,000 in 1893. In addition, interception sewers were built during the 1890's to empty into the Chicago River while, despite the opposition of St. Louis, concerned over its own water supply, and of certain commercial interests, concerned over the level of the lake, con-

struction of a drainage canal 28 miles long served to reverse the river's flow, sending all Chicago waste down the Illinois. In 1900 the typhoid death rate reached a new low of 20 per 100,000.[29] In addition, new experiments were undertaken in filtration. The first important studies were at the Lawrence Experiment Station, set up by the Massachusetts Board of Health in 1887, where the slow sand method was developed. Although progress in applying this knowledge came largely after 1900, its value had already been proved in Lawrence. When an investigation showed that the city water supply, taken from the sewage-polluted Merrimac, was to blame for a severe typhoid epidemic in 1890 and 1891, a slow sand filtration plant was introduced in 1893, and the death rate from all causes fell from 24.0 per 1,000 in that year to 18.8 in 1894.[30]

Meanwhile, the advent of bacteriology also made possible the development of greater purity in milk supplies. Although medical and scientific writers showed comparatively little interest in milk before 1880,[31] Boston had appointed a milk inspector in 1859 to prevent the use of distillery slops as feed. It was not until the 1870's and 1880's, however, that inspection became significant, and then it was primarily directed, with more or less success, to the problem of adulteration. In the 1890's an increasing scientific interest in the problems of milk supply brought new emphasis on bacteriological purity. Koch's discovery of tuberculin in 1890 made possible accurate detection of tuberculosis in cattle, long known to exist and considered dangerous, and by 1900 several cities were requiring tuberculin tests. The first experimental bacterial counts in the United States came in Boston in 1892, and other cities followed, but it was not until 1900 that Montclair, N. J., instituted the first regular system of bacteriological examination. The movement for certified milk, inaugurated in 1892 by Henry L. Coit of Newark, N. J., greatly aided in improving production conditions in many dairies. While Pasteur and other Europeans had been working on means of sterilization since the 1860's, pasteurization was largely in the discussion stage in the United States until after 1900. At the same time certain charitable organizations and philanthropic individuals, realizing that the children of the poor who needed this food most were least able to get it, began developing infant milk depots. The first, founded in Germany in 1889, was followed the same year in the United States at the Good Samaritan Hospital in New York. Especially important was the station set up by Nathan Straus in 1893, first of many supported by his contributions. Rochester, N. Y., in 1897 was the first city to undertake municipal distribution.[32]

While constant advances were being made in nearly all fields of environmental sanitation during the 1880's and 1890's, the developments in medical theory also prompted the extension and improvement of old techniques of infectious disease control long used for smallpox. In 1873 Brooklyn first required notification of scarlet fever and typhoid, and though this development was slow to spread, by 1900 32 states and many communities in others required notification of communicable diseases.[33] In 1894 Boston introduced the first regular system of medical examination of school children, followed by Chicago in 1895, by New York in 1897, and by Philadelphia in 1898.[34] Placarding of houses for infectious diseases became nearly universal by 1900.[35] Except for smallpox facilities, in 1873 New York had only two small wards on Blackwell's Island to serve as an isolation hospital, mostly for typhus, but by 1899 at least 15 of the nation's largest cities had isolation hospitals for scarlet fever, diphtheria, and other infectious diseases.[36] Disinfection became

so prevalent that by 1906 Charles V. Chapin termed it a "fetich."[37]

In addition to the extension and improvement in notification, isolation, and disinfection, certain innovations were made possible by the advent of bacteriology. The most important, prior to 1900, was the introduction of bacteriological laboratories as an essential adjunct of boards of health. The first, established in Providence in 1888, proved its value that year by tracing an epidemic of typhoid fever to the city water supply. While the emphasis in this and similar early establishments was on the sanitary aspects of public health, New York in 1893 instituted the first diagnostic laboratory. The development of culture methods as the most valuable means of recognizing diphtheria caused many cities as well as states to follow this lead, and by 1900, 31 of the 40 largest cities and many smaller ones were so equipped. Although the original and principle purpose of most of these laboratories was to perform routine work in diagnosis and control of communicable diseases, some also produced antitoxins, vaccine, and tuberculin. Generously established facilities in such places as Boston, New York, Philadelphia, and Pittsburgh, provided an opportunity for original investigations and attracted able men who would otherwise have gone into state or university positions. According to the *Review of Reviews* the New York Health Department commanded "scientific talent of a high order,"[38] and this praise was well earned by its work in establishing the carrier principle for diphtheria. In the years that followed the laboratory, through work in controlling water, milk, and food supplies, diagnosis, and preparation of sera and vaccine, became the foundation of the public health movement in the United States.[39]

The science of immunology, introduced by Pasteur, paved the way for another major development in the 1890's, the use of diphtheria antitoxin. Although foreshadowed by smallpox vaccination, immunology had to await the germ theory before extension to other diseases was possible. When the news of the development of diphtheria antitoxin by Emil von Behring and Shibasaburo Kitasato reached the United States, one popular news magazine commented that, "nothing else in the world's recent progress of which these pages could make note has an equal degree of interest or importance."[40] Convinced by its own investigations of the value of the new discovery, the New York Health Department, under Hermann M. Biggs, started manufacturing the antitoxin, partially supported by the *New York Herald*. Inaugurated by New York, free distribution of the cure was quickly taken up by other cities from Boston to San Francisco, from Chicago to New Orleans.[41] The value of these measures was reflected immediately in the saving of life. In New York the death rate for diphtheria and croup had increased steadily from 118 per 100,000 in 1890 to 168 in 1894; the following year it dropped to 112, and in 1898 reached a low of 48 for the decade. In Boston the rate was over 100 every year but one from 1890 through 1896; in 1898 it reached a low of 35.[42]

In the fight against the nation's greatest killer, tuberculosis, significant advances also occurred in the closing decade of the century. Development of effective means of treating tuberculosis came during the 1880's and 1890's. Deciding to test the rest and fresh air theory, Edward L. Trudeau in 1873 went to the Adirondacks where meditations on his own improvement led to the establishment of the Adirondack Cottage Sanatorium at Saranac Lake in 1884. By 1900, there were many successful private sanatoria and at least three supported by state and local governments. Meanwhile, Koch's discovery of the tubercle bacillus in 1882 demonstrated the

contagious nature of the disease. Discovery of the germ in the sputum of patients led to the belief that dried expectoration was a particularly common means of spreading infection, whether found on linen, bedclothes, handkerchiefs, floors, or street pavements. In 1890 New York City began issuing the first pamphlets giving information on the contagious character of the white plague and on means to prevent its spread, and by 1894 was conducting an intensive campaign of prevention, emphasizing education. Soon the Department of Health was distributing 20,000 to 30,000 circulars a year to physicians and tenement house residents where the malady thrived on crowded conditions. By 1899, 22 state boards of health and many other cities had adopted this practice. New York also introduced enforced disinfection and renovation of infected premises. In 1896 the city passed the first anti-spitting regulation in the United States. The following year New York became the first to require notification of tuberculosis.[43] The results of this fight against the white plague were markedly reflected in the death rates. In New York it dropped from 362 per 100,000 in 1890 to 257 in 1900; in Boston from 333 to 222; in Philadelphia from 264 to 210; in Chicago from 179 to 153.[44]

The campaign against tuberculosis also marked the first extensive use of another valuable weapon in the hands of health officers, education in personal hygiene. They had long recognized the importance of popular support, and the American Public Health Association had worked valiantly to spread knowledge. Most of this, however, was propaganda to convince the public of the general need for sanitary measures in order to gain support for boards of health and to promote cleanliness. Since the 1870's, there had been pleas in lay as well as scientific periodicals for instruction in physiology, hygiene, and sanitary science in public schools. Early efforts, as far back as 1850 in Massachusetts, to introduce such subjects into the curriculum were largely abortive, but renewed attempts in the 1880's proved more successful. Unfortunately, however, most of the resulting legislation came from the pressure of temperance and similar organizations, and the teaching was specifically directed at the effects of alcohol and tobacco. According to one member of the American Public Health Association, most of the textbooks were "unfair, unscientific, and untruthful."[45] While some of the other publicity given to the public health movement was invaluable, it was in the field of tuberculosis prevention and cure that there occurred the first significant dissemination of information on specific methods of controlling communicable diseases. This technique was to become of increasing importance during the 20th century.

One of the valuable aids to the development of education, public health nursing also saw its first beginnings during this period. The first modern district nursing association was founded in 1859 by a Liverpool philanthropist, William Rathbone, with the coöperation of Florence Nightingale. The movement reached this country with the formation of a similar organization in 1877 by the Women's Board of the New York City Mission. In 1886 the Instructive District Nursing Association was established in Boston, the first to include education in personal hygiene as a definite objective. By 1900 there were 58 organizations engaged in public health nursing employing 130 nurses. Again, the impetus had been given for a far greater development in the present century.[46]

In contrast to the movement for environmental sanitation, the development of bacteriological laboratories and of new methods of treating diphtheria, tuberculosis, and other communicable diseases owed comparatively little to

non-professional humanitarian organizations. Especially in New York where the far-sighted administration of Hermann M. Biggs set an example for the world it was the big city health officials and their professional colleagues that led the way. Several reasons combined to bring about this change. The health officers were in a better position to realize the importance of new developments in medical science. Writing in 1900, Chapin declared that "public sanitation in the popular mind consists chiefly in the removal of nuisances,"[47] and even among many sanitarians the filth theory of disease still seemed, for all practical purposes, to hold first place. While the New York department was making its epochal researches in the control of diphtheria, a writer in *Scribner's Magazine* charged it with "pottering" with tenement house reform.[48] Another factor was that these new activities were less likely to raise specific opposition. While a bacteriological laboratory could be set up fairly cheaply, and rarely injured important private interests, a new water works was expensive and changes frequently represented the virtual loss of a considerable investment, often of private capital. Tenement reform especially was opposed by vested interests. A third reason was the increased faith in the value of science arising in part from its more widespread teaching in the colleges and high schools but still more from its many successes in medicine and other fields. In addition, the idea of a social service state, though still in its infancy compared to today, was gaining in popularity. Not only were some men attacking the predominant belief in *laissez faire*, but tax supported schools, libraries, and fire departments—all of which developed extensively in the years following the Civil War—were akin to tax supported public health. Though the activities of the federal government in public health were slight, it was supporting scientific research in other fields with the establishment of the U. S. Geological Survey and the Bureau of Ethnology in 1879. Humanitarians had accustomed many to the idea of using government to effect their reforms. By the 1890's the boards of health had proved their value and were securely established as part of American municipal administration. No longer under the compulsion of trying to get the authority to make rules for health, they were able to use their power, and, together with their professional colleagues, to lead the way in the public health movement. Nothing else shows more clearly the advance which New York had made since 1865, when a group of private citizens had to give the impetus to the formation of the health department.

In the 1860's and 1870's the need for environmental sanitation and adequate administrative powers had been emphasized. During the 1880's and 1890's these became generally recognized, received widespread support, and developed rapidly. By 1900, there was much room for improvement left: many wells were still used for water supply; sewerage was often inadequate; housing of the urban poor was execrable; refuse removal was often neglected. Yet great strides had been made and the need for remedial action was firmly established in the public consciousness. Civic-minded organizations were demanding cleanliness, and in 1901 New York passed the first effective tenement house law. In many cities the administrative details had already passed out of the purview of boards of health into the hands of various departments especially organized to cope with them. In the 1880's the implications of new medical theory were beginning to reach public health experts, and during the 1890's were producing significant results. In the developments deriving from bacteriology a sound start had been made toward pure water and milk supplies and toward the control of infectious diseases

through increasing application of the techniques of notification, isolation, and disinfection, and by development of laboratories, diphtheria antitoxin, and education in personal hygiene. Much lay ahead in all these fields.

Problems of rural health, mobilization of the physicians of the community to aid in public health, care of chronic and constitutional diseases, and industrial hygiene had as yet received little attention. But by 1900 the public health movement, virtually nonexistent in 1860, was firmly established, and had proved its value in lowering the death rate of the nation.

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Appraising a Medical Care Program*

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PREPAID medical service is a subject about which there is much misconception and bias. This article is based on a study of the operations of the Group Health Association of Washington which recently celebrated its 10th birthday. In this article certain standard approaches as well as some novel approaches are used in appraising the adequacy of a medical care program.

THE MEDICAL STAFF

As of September 1, 1947, the number of full-time medical staff members was distributed as follows:

Department of Adult Medicine	5
Department of Obstetrics and Gynecology	3
Department of Pediatrics	4
Department of Otolaryngology	1
Total	13

In addition, there were a general surgeon on a retainer basis and 9 specialists on part-time or referral basis in the fields of internal medicine, allergy, dermatology (2), neurology, orthopedic surgery, roentgenology, urological surgery, and ophthalmology. These 9 specialists together contributed services equivalent to the full time of 3 physicians.

The full-time medical staff or equivalent is, therefore, 17 (13 plus 1 plus 3).

The auxiliary medical and administrative staff, as of September 1, 1947, consisted of the following:

1	Optometrist
3	Pharmacists
15	Registered Nurses
3	Practical Nurses
7	Laboratory, x-rays, and optical technicians
39	Business and administrative employees

For each physician operating in Group Health Association's prepaid medical care plan, there were approximately 4 staff members lending direct or indirect assistance.

As stated above, the number of physicians on G.H.A.'s medical staff on September 1, 1947, was the equivalent of 17 full-time physicians. The membership on that date was 12,806 participants. The ratio of physicians to member-participants was, therefore, 1.33 for each 1,000 member-participants. This ratio can also be expressed as follows: there was 1 physician for each 752 member-participants.

A ratio of 1.29 physicians per 1,000 population is generally considered adequate to provide medical care. G.H.A.'s ratio of 1.33 per 1,000 participants, therefore, compares favorably to the ratio deemed necessary for adequate medical care.

A survey of the number of physicians in relation to population in the District of Columbia showed that on June 1, 1947, there were 637 persons per physician, or a ratio of 1.59 per 1,000 persons. However, the whole metropolitan area constitutes one medical trade region with Washington, D. C., as its center. When data for the counties of Montgomery and Prince Georges, Maryland, and Arlington County and the City of Alexandria are added to those for the

* Adapted by the writer from his thesis, "A Study of Group Health Association: A Survey of the Operation of a Prepared Medical Care Program in the District of Columbia," written as a partial requirement for an M.A. degree in economics at the American University, Washington, D. C.

District of Columbia, the number of persons per physician is 762, or 1.31 per 1,000 population.[1]

G.H.A.'s physician-participant ratio is slightly lower than the physician-population ratio for the District of Columbia and about the same as that for the whole metropolitan area.

The full-time and part-time medical staff members receive a monthly "salary," though the Business Manager of G.H.A. made it clear in conversation with the writer that G.H.A.'s doctors are not "employed" by the Association but are on a "contract basis" with the Association. (This distinction is made to show that G.H.A. is not engaged in the practice of medicine but merely to provide the arrangements under which doctors may practise medicine.) The general surgeon is paid a yearly stipend, in return for which he* performs all the major surgery required for G.H.A. members. Two physicians, the urological surgeon, and the ophthalmologist, are paid for each case referred to them by the Medical Director.

All members of the medical staff are fully licensed in the District of Columbia. Many have also been licensed in other states, and a few have been trained in foreign countries.

Six of the physicians are certified in their specialties, i. e., they are either diplomates in their specialty or are Fellows of the American College of Surgeons.

For all physicians on G.H.A.'s staff, the average number of years in which they had been engaged in medical practice as of September 1, 1947, was 12. If service in the armed forces is omitted, the average is computed as 11. (In both cases service as an interne was not counted toward medical practice, but service as a resident physician was so credited.)

* Actually the general surgeon and his associate both perform the surgical operations. G.H.A.'s contract, however, is with the senior surgeon only.

The average age of the physicians in adult medicine (general practitioners) was 34. (Age was computed to nearest birthday as of September 1, 1947.) The average age of all physicians on the staff was 40.

G.H.A.'s specialists are older, on the average, than its general practitioners. In the District of Columbia on the whole, however, general practitioners are older, on the average than the specialists.

Physicians for the staff are partially recruited through advertisements in the *Journal of the American Medical Association*. In addition, recommendations for appointment are made to the acting Medical Director (Chief of Pediatrics) by persons who have knowledge of the interest of doctors wishing to become connected with a prepayment medical care organization. After screening by the acting Medical Director, the candidate for appointment to the staff is interviewed by the Medical Executive Committee and approved or disapproved by that committee.

G.H.A.'s promotion and publicity manager states that the inducements to work on G.H.A.'s medical staff are as follows:

Attractive salaries ($4,300 to $12,500 per year depending on experience and specialty)
Freedom to practise medicine (i. e., no worry about hiring nurses, bookkeepers, etc.)
Liberal conditions:
  Annual leave, 30 days per year
  Study leave, 30 days per year
  Sabattical leave, 1 year in 7
Availability of up-to-date equipment
Group practice and consultation
No need to consider pocketbook of patient when recommending referral to specialist or x-ray or laboratory tests.

PATIENT LOADS

During 1946, each G.H.A. doctor had, on the average, about 17 consultations per day while he was at G.H.A.'s offices. A clinic day was slightly longer than 7 hours in length. Like most averages, 17 consultations per clinic day per doctor do not tell the whole story. There were

TABLE 1

Patient Loads by Department Group Health Association 1946

Department	Total Number of Clinic Visits	Doctor Days on Clinic Duty	Visits per Doctor per Day on Clinic Duty
General Medicine	13,422	994	13.5
Obstetrics	5,466	250	21.9
Pediatrics	10,131	548	18.5
Allergy	870	57.4	15.0
Neurology	353	52	6.8
Dermatology	2,151	46	47.0
Roentgenology	(3,938)*	..	..
Orthopedics	403	28.4	14.0
Eye Department	2,468	193.5	12.8
Ear-Nose-Throat Dept.	2,789	97.9	28.0
Major Surgery	(1,553)*	..	..
All Departments	38,053	2,287.2	18.6

* Not included in totals.

variations from department to department, from doctor to doctor, depending on the nature of the treatment or consultation, and the extent to which nurses, x-ray technicians, and other auxiliary medical personnel could be utilized. By departments, the number of visits per day per doctor on clinic duty is shown in Table 1.

The patient-load level in the General Medicine Department, where the largest number of clinical appointments are handled, was recognized as being relatively low and, upon recommendation of the Executive Council in the spring of 1947, the Board of Trustees accepted a change in the procedure in the handling of appointments for this department. Under this change, the " members of the medical staff in general medicine, in order to provide for a peak level of 21 patients per day . . . [modified] their appointment schedule so that a 30 minute appointment [would be] scheduled for the initial visit in an illness, and a 15 minute appointment for succeeding visits in that illness.*

How do G.H.A.'s patient loads compare to those of physicians engaged in private practice in the District of Columbia? It is necessary to compute G.H.A.'s patient loads on a weekly basis because comparable figures for the District of Columbia are available on this basis. To determine weekly patient loads, G.H.A.'s daily patient loads were multiplied by 4, the approximate number of days per week doctors devoted to clinical consultations. A comparison of G.H.A.'s patient loads for selected departments with those of the District of Columbia is shown below, in Table 2.

* *Minutes of the Board of Trustees*, April 29, 1947.

TABLE 2

Comparison of G.H.A.'s Patient Loads with Those of Physicians in D. C., for Selected Departments

Department	Visits per G.H.A. Doctor per Day on Clinic Duty (From column 3, Table 1)	Estimated Visits per G.H.A. Doctor per Week (Column 1 x 4) †	Average Weekly Office Patient Load for D. C. Physicians *
General Medicine	13.5	54.0	64.0
Obstetrics	21.9	87.6	99.0
Pediatrics	18.5	74.0	77.0

* Source: Ciocco, Antonio and Altman, Isidore. A Postwar Survey of Physicians Practicing in Washington, *Medical Annals of the District of Columbia*, XVI, 10; 578 (Oct.), 1947. This survey was made in the summer of 1947.

† Physicians in general medicine, obstetrics, and pediatrics, spent an average of 4 days per week in clinical consultations at G.H.A.'s offices. This is based on a study made by the writer of time devoted to clinical consultations by full-time physicians in the above mentioned departments for September, 1947.

As seen from Table 2, G.H.A.'s weekly patient load is lower than that of physicians in general in the District of Columbia for selected departments.

The average weekly office patient load for general practitioners in the District of Columbia is also available according to age groups. This is shown in Table 3.

The average age of G.H.A.'s general practitioners was shown to be 34. Hence a more valid comparison for G.H.A.'s general medicine department would be between G.H.A.'s estimated visits per doctor per week (general medicine department) shown as 54 in Table 2, and the average weekly office patient load for general practitioners in Washington under the age of 35, shown above as 51.

TABLE 3

Average Weekly Office Patient Load for General Practitioners in the District of Columbia 1947 *

Age Group (In Years)	Average Weekly Office Patient Load
All ages	64
Under 35	51
35–44	78
45–64	65
65 and over	34

* Source. Ciocco, Antonio, and Altman, Isidore, *ibid.*, p. 577.

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Interim Board on Preventive Medicine and Public Health

It will be recalled that an Interim Board on Preventive Medicine and Public Health was created by the Surgeons General of the U. S. Public Health Service, U. S. Air Corps, U. S. Army, and U. S. Navy, under the Chairmanship of Ernest L. Stebbins, M.D., of Baltimore for the purpose of certification of medical specialists in public health and preventive medicine from the Government Services.

At a meeting of the Interim Board on October 15 it was voted to withhold certification of specialists pending action by the Council on Medical Education and Hospitals of the American Medical Association and of the Council on Specialty Boards in February, 1949, with the hope that the American Board of Preventive Medicine and Public Health, Inc., would be prepared to accept applications immediately thereafter. It was announced that the Interim Board had received 315 applications for certification in the Services which are now suspended for the time being with the possibility that they may be transferred to the American Board of Preventive Medicine and Public Health, Inc., when it is ready to take action. (See page 1619, this issue.)

The Use of Medical-Social Service by a County Health Department

An Account of a Demonstration in Anne Arundel County, Maryland

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IDEAS regarding public health are changing. A new philosophy of health has arisen and is being rapidly expanded as new ideas are advanced and are incorporated into the structure of modern health department practices. The time when a health officer felt that he had fulfilled his duty when he had supervised the milk and water supplies and the disposal of sewage, established quarantine, and abated current nuisances, has practically disappeared, to be replaced by the much broader and more constructive concept that public health is one of the important social and educational forces in the community for the promotion of a better way of living. Sanitation and the abatement of health hazards must and do continue, but health programs are now enriched and vitalized by such services as maternal and child health, nutrition, medical-social service, mental hygiene, housing, and others. The progressive health officer is no longer satisfied that his public blindly follow the instructions he gives them; he wants them to have an intelligent understanding of the processes employed and a realization of the relationship which exists between good health and good standards of living.

No agency working for the public good is self-sufficient. This applies to the health department as well as all others. What progress can a health program make if it ignores the relief and welfare agencies, the juvenile court, and the numerous other public and private agencies and groups interested in the welfare of the people? If the health department is to be a real force in promoting better health and better living, it must have the active coöperation of these and all agencies, and must in turn coöperate with them.

The Health Department staff in Anne Arundel County consists of a health officer and an assistant; three nurse supervisors, two nurse-midwives, and a staff of twenty public health nurses; a medical-social worker; a laboratory technician and two assistants; an x-ray technician; one dentist; four sanitarians; a secretary, and nine clerks.

The following clinic and conference services are offered:

Maternal and Child Health
Rheumatic Fever—Heart
Hearing
Speech Defect
Mental Health
Pediatric Consultation
Dental
Orthopedic
Chest
Venereal Disease
Cancer Detection and Control

The Maternal and Child Health Conferences are fourfold conferences attended by prenatals, postnatals, infants, and preschool children. Primarily for well

children, mothers are included because we believe in the family unit method of approach, and because in a rural community this arrangement is the most economical from the point of view of time.

Laboratory service is furnished through a branch of the State Laboratory.

The Health Department is responsible for the School Health Program (a modification of the Astoria Plan), and for the administration of the Maryland Medical Care Program as it applies in this county. The Health Department has, in addition, a delivery service which consists in furnishing nurses to assist the physician at home deliveries, and nurse-midwives to supervise and teach and who deliver certain cases. There is an arrangement with The Johns Hopkins Hospital for the care of premature infants and hospitalization of abnormal obstetrical cases not safe for home delivery.

All of these services are tied together through nine health centers and the central office in Annapolis. Each nurse is a generalized public health nurse and carries the entire program in her district. She serves approximately 5,000 people. Through her, ill children seen in maternal and child health conferences, or discovered in the course of school work, are referred back to the family physician, to a special clinic, or to a hospital, as indicated by the doctor in charge of the conference. The home visiting is done by the same nurse who works in the conference or clinic. Some health centers have special clinics, as well as maternal and child health conferences. The health center nurse works in all of these. She receives reports of work done on her cases in clinics or hospitals located outside of her area, uses this material in her visiting or conference work, and assembles all information and records in a folder specially set up for each family unit. Thus, it is possible to open up an extensive and attractive vista of possibilities for correction of defects. In this picture, the central office in Annapolis looms large. It is the nerve center and clearinghouse, through which local health activities are correlated and controlled. This results in much corrective work being done.

In order to enable the Health Department in Anne Arundel County better to carry out its broad philosophy of public health work, a medical-social worker was employed to serve as a consultant to any member of the staff faced with a social problem connected with his work and with which he would like some help. Through her training and experience, the social worker brings to the staff her special knowledge of people and their problems, and of skills and techniques in working with people. She also brings a knowledge and understanding of other social agencies in the community, of the services they offer and how these services can be used by the Health Department, as well as how the services of the Health Department can be integrated into other community services.

Social work is no longer concerned primarily with "the poor"; but, like public health, has widened its field and now includes a knowledge of and a concern for people's total needs, both emotional and environmental, and ways of meeting those needs. Providing the necessities of life, such as food and clothing, is important; but equally important is the manner in which a person lives emotionally in his environment. It is necessary for the child with rheumatic fever to be well housed and fed; but it is equally necessary that consideration be given to his mental and emotional well-being. Love, understanding, and security are as vital to an individual as food and clothing.

The close relationship which exists between medical and social factors in any health field is no longer questioned. To work toward bodily health alone,

without considering mental and social health, is an unbalanced and unprofitable task. For instance, the causes of malnutrition often lie in the environment. The treatment, therefore, lies not alone in giving medication to the patient but also in an educational and social approach to him and his environment. The patient with pulmonary tuberculosis who has been advised to go to a sanatorium does not go willingly unless his family life and responsibilities have been settled to his satisfaction before he leaves home. Worries about his family after he has been hospitalized may cause him to leave the institution. In dealing with any person, adult or child, suffering from a chronic illness, it is necessary not only to think of medical care but also of the patient's adjustment to his home and his environment, of his educational, recreational, and vocational needs.

The medical-social consultation service in the Anne Arundel County Health Department is not limited to any particular phase of the total service given, such as crippled children, tuberculosis, etc., but covers the entire program. Since social problems occur in all areas of health service, to limit the medical-social consultation service to only one or two phases would be confusing and limiting to the entire staff. The chief contribution of the medical-social worker is in the area of emotional and environmental factors as they relate to a health service, rather than in the area of the health service itself. The personality of the patient and his environment remain the same whether the patient has a venereal disease or a hearing defect; thus, the social approach to him is the same. We believe it is valid to give medical social consultation service on a generalized basis.

It is recognized that on any health department staff, practically everyone is working directly with people. People in general seem to expect persons connected with health to be understanding and helpful; therefore, they rather freely bring a variety of social problems to the staff members. This happens in clinics where patients discuss social problems with doctors. Public health nurses going into homes would need to be blind and deaf if they did not see poor social conditions and hear about family problems. The nurse-midwives are expected to be understanding of the social problems which confront pregnant women, both married and unmarried. The physical therapist is sometimes faced not only with a twisted leg but sometimes with a twisted personality resulting from the leg. A father managing a restaurant may consult the sanitarian, when he calls to inspect, about what to do with his child who has lately been helping himself to the cash register. Even the clerks in the health department office are sometimes asked for advice on social problems!

In order to meet the requests for assistance with social problems which the members of the staff are receiving, it is helpful for them to have some knowledge of how best to do this. Any person working closely with people can do better work if he has a body of basic knowledge about people and their reactions, ways in which he can help them meet their problems, and what resources the community can offer to give additional help. This body of knowledge is, at present, particularly emphasized in the training and experience of the social worker. She has organized this knowledge, developed it, and can use it in a purposeful manner. It is in this area, then, that the medical-social worker contributes to the work of the health department.

The medical-social consultation service in the Anne Arundel County Health Department is in no way an attempt to make social workers out of the Health Department staff members. The service was established to help the staff to meet

more adequately social problems that are either intrinsically a part of the medical situation or are brought as such to the Health Department personnel. It is recognized that concern for individuals with social problems is rightfully shared by everyone in the department. In giving consultation service, careful consideration is given to the ability, training, and experience of each individual member of the staff. Careful consideration is also given to the individual case situation in order to determine if it is within the function of the staff member to handle or if it should be referred to another agency. In cases where the social situation is complicated, and where there is no resource for social help outside of the staff member, an attempt is made to arrive at some means of help in the situation. It is recognized that the medical-social consultation service is not meeting the need for long-time medical-social case work service to patients.

The medical-social consultation service is carried out by having the medical-social worker act as a consultant to any member of the staff who wishes to use the service. The staff member discusses a specific social problem with the social worker, and together they decide what seems to be the best course of action in the particular situation. This joint decision may result in various forms of action to be taken by the staff member: frequently the staff member will proceed to handle the problem himself; sometimes it is decided to refer the situation to another agency for complete service or to be carried coöperatively with the Health Department; and sometimes other decisions may be reached depending on the individual problem. The responsibility for the family, in almost all instances, remains with the member of the staff who is handling the problem, and he is free to pursue his activities, returning when he wishes further help, or according to plan.

While emphasis is placed on the consultation aspects of the service and most of the help is given through conference, home visiting by the medical-social consultant is not excluded. Occasionally, the staff member seeking consultation, or the medical-social worker, suggests that a home visit be paid in order to understand and handle the social problem better. These visits are made by the staff member and the medical-social worker together and usually occur only once, or at the most twice, on a given case. Occasionally it is decided that the medical-social consultant will interview the patient in clinic. These visits and interviews are always followed by a conference with the staff member, during which the visit or interview is discussed and a plan for future action agreed upon.

Our effort is to make this service readily accessible to all members of the staff. In order to do this, the medical-social consultant is in the central office in Annapolis every morning at a specified hour. She can be reached either personally or by telephone by anyone who has a social problem to handle with which he wishes help. Emergencies are thus handled as such. Besides this, the medical-social consultant visits each health center at least once a month for a conference with the public health nurses in the particular health center. These visits are planned according to a schedule approved by the supervising nurse who attends the conferences whenever possible. This gives the nurses an opportunity to discuss any cases which involve social problems. At the request of a nurse, with the approval of the supervising nurse, the medical-social consultant may visit a health center at times other than the occasion of the regular monthly visit.

These conferences with the public health nurses at the health centers have proved to be an important part of the program of the medical-social consult-

ant. The nurses recognize their patients as individuals and have used the medical-social consultation service freely. Without the coöperation and interest of the public health nurses, along with the rest of the staff, the service could not be effective.

Participation in the orientation of new staff members and in the educational program carried on by the Anne Arundel County Health Department is another function of the medical-social worker. When a new member joins the staff, an early conference is planned with the medical-social worker so that from the beginning of his experience, the staff member is helped to integrate the medical and social factors which will confront him in his work. Anne Arundel County is a demonstration unit for the Maryland State Department of Health and a center for field experience in public health for several universities training both doctors and nurses. It is also used for observation purposes by several national and international organizations interested in public health. Visitors and students from our own and foreign countries are frequently present. The medical-social worker contributes her specialized knowledge in social work to the education and training of these visitors and students.

It is sometimes difficult for a person not specially trained in social work to understand the policies of a social agency and how that agency applies its policies in carrying on its work. It is true, too, that social workers sometimes do not understand the medical approach and the policies of the Health Department. This lack of understanding on the part of two agencies which should be working closely together for the benefit of individuals and the community frequently prevents these resources from complementing each other's services with a resulting loss to individuals and the community.

While for many years the staff of the Anne Arundel County Health Department has recognized the need to work closely with other agencies and excellent relations have been maintained with them, the medical-social worker, because of her background, focuses part of her attention directly in this area. Besides being familiar with the functions and policies of the Health Department, she is familiar with the functions and policies of other agencies in the community. Because of this, she is able to suggest to members of the Health Department staff how the services of these other agencies can best be used for the benefit of individuals, and to interpret to other agencies how they can use the health services offered by the community for the benefit of their clients. Thus, she serves as a liaison person between the Health Department and other community agencies. Her position as liaison officer enables the medical-social worker to recognize better the areas where services in the community could be more closely integrated and initiate meetings between the Health Department and other agencies for the purpose of discussing and planning for better service to the people of the community.

The medical-social consultant participates in program planning and policy making of the Health Department. She is included in staff conferences and group meetings both within the agency and outside it. Since the Health Department is a social force in the community, its program must be planned so that it is acceptable to and meets the needs of the people. The medical-social worker contributes her knowledge of the community and its needs to the thinking of the group and her understanding of the social approach needed in working with people.

The medical-social consultation service, as it is being carried out in the Anne Arundel County Health Department is still in an experimental stage. It is recognized that it is not meeting the total need for medical-social case

work in the County Health Department. It is, however, meeting many of the social needs of the patients; it is bringing to the staff a knowledge of the social approach and a greater facility in using this knowledge in working with people; it is bringing a closer and stronger relationship between the Health Department and community agencies. The Health Department staff is using the service on every program and seems to like it!

National Health Council Appoints Executive Director

The appointment of Thomas D. Dublin, M.D., Dr.P.H., as Executive Director of the National Health Council, New York City, was announced on October 11 by Philip R. Mather, Boston, President of the Council. Dr. Dublin comes to the Council from the Long Island College of Medicine, Brooklyn, where he has served for the last six years as Professor of Preventive Medicine and Community Health. He assumed his new duties on October 15 in the building occupied by the National Health Council and many associated agencies, 1790 Broadway, New York.

Mr. Mather stated that Dr. Dublin's appointment climaxed an extensive search for a qualified executive to guide the Council's expanding activities. With its membership of 23 leading national health agencies, both voluntary and governmental, the Council holds a place of leadership in the public health field. For more than 25 years it has brought together a steadily increasing number of specialized organizations working to improve individual and public health.

The National Health Council, Mr. Mather says, has adopted a broad program which seeks to stimulate the provision of adequate public health services of high quality for all the population of the United States. Currently the Council's program emphasizes the enlistment of more active participation by the public in partnership with professional workers in the field of public health. At present it is engaged in helping local professional and citizen groups in their attempts to bring about full-time professionally staffed health departments where they do not exist and to strengthen the health services of existing departments. Another interest is the development of community health councils to bring together all interested organizations to plan for community health.

Dr. Dublin, who is a graduate of Dartmouth College and of the Harvard Medical School, received clinical training at the Boston City Hospital and at the Hospital of the Rockefeller Institute for Medical Research. He received his doctorate in public health from The Johns Hopkins School of Hygiene and Public Health, Baltimore, and served on the staff of the New York State Department of Health in administrative and research capacities. During the last several years of his residence in Greater New York he has participated extensively in the affairs of voluntary health agencies both local and national.

At the same time, Mr. Mather announced that the Rockefeller Foundation has made a grant to the National Health Council of $225,000 to be used over a 3 year period in its program of strengthening the public health movement throughout the United States.

The American Public Health Association has been an active member of the National Health Council since the Council's establishment in 1921.

New Approach to Food Handler Training*

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WE have come a long way in the field of education; however, we have a great deal more territory to cover. In this paper we are limiting our comments and suggestions to a new approach in food handling training. Permit me to cite just one example of why we need more education in this field. I choose this example because it is one that we all come face to face with every day, and that is the little butter patty. The next time you are eating out, pick up that little butter patty, whether it is margarine or butter it does not matter, hold it up to a light so that you get the sheen on the butter, and then start counting the fingerprints that you see. The presence of fingerprints on the butter produces the same result as if the waitress or food handler who handled that butter deliberately walked up to you and stuck his or her finger in your mouth.

In education as well as other fields, there are a number of ways of approaching a problem and its solutions. I like to think of this whole thing as a wagon wheel; the hub of the wheel is the solution to the problem and the spokes of the wheel are the various ways or avenues of reaching it. Where one approach may not produce results in an instance, another type of approach may succeed. In education, we know that people learn by repetition. That does not mean that we repeat the same thing in the same words over and over: "Mary had a little lamb, Mary had a little lamb," etc. By repetition we mean that you say the same thing but you say it in a different way. That is, you ***tell them what you are going to tell them, then you tell them, and then you tell them what you told them.*** You say the same things but you approach from a different angle.

Planning of the program determines the success of a food handling school. You can make the course anywhere from 2 to 8 hours long. The average runs from 4 to 6 hours. In the past, in these schools, we have tried everything, from giving door prizes to closing all the establishments in the town and bringing everyone in at once. These approaches seemed promising at the time and the thing to do. But in the follow-up we found that they were not as successful as we had previously hoped. Something was wrong, definitely wrong. We feel that our new approach to food handling training may solve many of these problems, but we do not contend for a moment that it will solve them all.

The National Sanitation Foundation recently completed a study on the I.Q. of food handlers, and their report indicates that the I.Q. of the average food handler is between the 5th and 8th grades. Not only have we had, in the

* This program has been worked out coöperatively with the Kansas City Health Department and the Missouri Division of Health. Acknowledgment is given to the Kansas City Health Department for their interest and initial art work.

past, a bombardment of too many ideas in too short a time in moving pictures and films, but they have been aimed at a higher level than that of most of the food handlers over the country.

We recommend the use of demonstrations using fluorescent material and "Blacklight" and we recommend slides. We believe in the versatility that the slides offer any teacher. With a set of good slides, preferably in color, you can rearrange the order in any way you desire, you can present them and change the patter or dialogue that goes with each slide to suit the particular group that you are addressing. You can dwell for just as long, or short a period of time on each slide as you wish. With slides and what we call "live patter" you can achieve a personal relationship between you as a teacher or speaker and the audience. We further recommend that the groups be broken down; heretofore, we have herded everyone together —cooks, bartenders, managers, soda fountain personnel, and what have you. We aim at the same objective for them all. Furthermore, each should know a little about the other fellow's job. But the waitress is not interested in the cook other than the fact that he gives her good food to serve to her customers. Nor is she interested in the dishwasher's problems or what he is doing, other than the fact that he delivers to her a clean, sanitized dish. And perhaps she is only interested in this because her customer complains, and her tips fall off. We propose that the course be called our Professional Food Handler Training Program.

We plan to train the managers, to teach them the managerial things. In addition to this we propose that the manager be given a sample of what his employees will be taught. Until we have sold the manager on accepting these ideas, we are wasting our time. It is impossible for our local sanitarians to be in each establishment 24 hours a day or during all of their operation period. Therefore, if we train the manager on these things, we have an inspector or sanitarian on the premises during all the working time. If the manager is sold on doing the things correctly, he will see to it that his employees carry out the necessary procedures. After we have had a meeting with the managers, which incidentally will only be 2 hours for one meeting, we next meet with his waitresses for one meeting for 2 hours. Then we will take the dishwashers and the cooks, or we will take the bartenders and soda fountain personnel, teaching each group just the things that each is interested in, dealing with just their main problems. We seek to insure retention of the facts, and a vital eager interest in the subjects presented.

This new approach to Professional Food Handler Training may be divided into five main sections or groupings. They are as follows: (1) providing material which can be controlled for speed of presentation according to the need of the particular group; (2) going into bacteriology only far enough to give a working knowledge but not so far as to confuse the hearers; (3) breaking the groups up according to specific duties within the establishments; that is, operators, waitresses, bartenders, soda fountain employees, cooks, etc.; (4) stressing only those items that are most commonly found in violation and thereby getting a greater retention; (5) creating a course which is easily adapted to the group by a selection of material from a master file. The master file consists of slides in full color and this file is divided into various groupings, with a section designed just for operators and managers, another for waitresses, etc. You can choose any one group that you wish and pull that particular section out of the master file, or perhaps if you are talking to a P.T.A. group or any civic organization, you can select not only one group but any combination

of groups contained in the master file to make up your talk. You can present the material to them from the angle of what they as patrons should expect to receive—a short course or a brief review of the things that you are trying to teach the food industry. Or you can give an overall picture to the industry itself, by selecting various slides from all of the groups, in any combinations you may wish to use. This master file will give you an opportunity to establish close personal contact with the audience, as well as give you a great amount of latitude.

In addition to this material, we have a series which consists of approximately 25 slides, called the "Hands Habit" (series)—they are actual photographs of hands. These slides bring out the little habits of the hands and stress the importance of changing such habits. We have a set of actual photographs of bacteria which will be in our master file, consisting of approximately 20 or 25 slides. In addition, we are going to have separate sections in our master file of slides designed just for managers, just for cooks, dishwashers, bartenders, soda fountain personnel, and so on. The master file is not complete. At the present time we have slides for waitresses, we have the "Hands Habit" series, and we have the series on bacteriology. We have two artists working on the bartenders and the soda fountain personnel series. We have material ready to go to work on the manager or operator series, so in due time we will have the master file complete. It is our intention to duplicate these and they will be for sale. There will be no royalty attached to them, therefore, the price should be kept at a minimum. We hope to have them available for federal, state, city, county, industry, or other use.

In Missouri we shall supply each of our districts and larger cities with copies of the master file. Suggested "patter" for each section in the file will also be provided. The district and city personnel will be called together to "brief" them on this new material and its possible uses. Following this, a state representative will visit each area having a master file to assist in working out local problems. The Professional Food Handler Training Program will be carried out on the local, county, and district levels. The state will offer training and assistance in presenting these training programs and will keep the master file alive and up to date. It will be the responsibility of the city, county, or district to carry out the "follow-up" which is just as important as the training program.

In addition to the training program and follow-up, the state advocates that a portion of this program be used for the general public and in the public schools. We must teach the public the things they should expect to receive and encourage them to demand such "sanitary courtesies."

Value of Routine Fluorograms as a Measure for Detecting Cardiac Abnormalities

Report of Findings on 14,235 Routine (35mm) Photofluorograms

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A RELATIVELY new phase of preventive medicine was introduced less than ten years ago, with suitable techniques for taking routine inexpensive x-rays of large groups of the population. By photofluorography, early detection of otherwise unsuspected or asymptomatic cases of tuberculosis was made possible in mass surveys—an incalculable boon to public health. Since the report by de Abreu,[1] generally credited with the first large-scale application of photofluorography, numerous reports have appeared describing results of routine studies on thousands of people.

Although originally intended for discovery of pulmonary tuberculosis, fluorography has been mentioned as a means of finding other diseases of the chest. Several authors have listed the discovery of cardiovascular diseases with various thoracic abnormalities among the results of mass examinations taken primarily to uncover hidden pulmonary disease.[2-8] The advantage of detecting heart disease on routine inexpensive film of large numbers of people is obvious. In one of the first reports on fluorograms, Beck[2] noted a considerable number of cardiovascular conditions, including hypertensive heart disease with widening of the aortic shadow and fusiform dilatation of the aorta, aneurisms, etc. A relative increase in size of the chambers of the heart and abnormalities in the several cardiac chambers were found. He stated that the miniatures were extremely enlightening, particularly when made at a 7 ft. distance, the distance at which the rays are nearly parallel and the outline of the heart can be accurately related to the transverse diameter of the chest. In addition to pulmonary and cardiovascular conditions, information has also been obtained concerning skeletal disorders (dorsal spine, ribs, and clavicles), tumors, and diaphragmatic abnormalities.

Heart disease demonstrable by x-ray is rather common. If properly looked for by the interpreter during mass investigations with these small films, a more frequent detection of persons with cardiovascular disease will be the result. Some of these cases will have been completely unsuspected heretofore. In this group one would expect the maximum of benefit, socially as well as to the patient. The ability to detect cardiac abnormalities is a possibility not usually realized in the ordinary interpretation of these films. Valvular disease of the heart, hypertension, and congenital abnormalities usually result in dilatation or hypertrophy of one or more cardiac chambers; characteristic enlargement of certain portions and resultant change in cardiac contour enable one to diagnose cardiac disease by x-ray. The miniature fluorograms differ essentially from large

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chest plates only in size. Thus, photofluorography constitutes a valuable additional technique for discovering certain cases of heart disease. With the development of photofluorography, the inadequacy of physical examinations to detect asymptomatic pulmonary tuberculosis became apparent, particularly in induction and separation centers; the ability to discover other chest diseases such as cardiac abnormalities greatly increases the value as a supplement to mass examinations.

The cost of taking care of a case of tuberculosis in a veteran of the armed services of the United States and Canada approaches $10,000.[8, 9] The necessary expenditure for a case of heart disease may or may not reach this amount, but because of the frequency of cardiac disease revealed in routine chest x-ray examinations, an investigation to discover cardiovascular aberrations, as well as pulmonary diseases, is certainly warranted. During the studies for tuberculosis further investigation for cardiac difficulties would well compensate for any effort put forth. The usual incidence of active tuberculosis found on several surveys approximated 1 per cent.[4, 10-13] The prevalence of heart disease demonstrable by x-ray in this group was of a percentage significantly higher alone to have warranted the use of mass fluorography.[12, 14] It is common knowledge that heart disease is found in a larger proportion of any given population than is tuberculosis. The early detection of tuberculosis has resulted in decreased expenses to the government. Necessarily, therefore, such early discovery of heart disease would not only be of great economic advantage but would be of inestimable value to the patient and all concerned.

REPORT OF SURVEY

Material—This survey covers 14,235 miniature films (35 mm) taken as routine fluorograms of Marine and Naval personnel stationed at Camp Le Jeune, North Carolina, over a 10 month period from January to November, 1947; 817 were civilians applying for positions as civil service workers. The ages of the subjects ranged from 17 to 60 years; the majority were young Marines just entering military life. The younger men, by far the largest group, had been investigated previously in a similar manner. Another group was of men being released from or reënlisting with the Marine Corps, men who had not been x-rayed since their enlistment, four or five years prior thereto, and a small remainder of older men with longer service histories. (As one would expect, this latter group offered a larger amount of pathology, than of hypertensive cardiac enlargement.) A few military subjects had not been x-rayed previously. This is explained by the fact that the Navy began using fluorograms routinely on a large scale only six years ago, when equipment became available.[10, 13] For the most part, the men were examined by x-ray since their entry into the Marine Corps. The civilian group varied markedly from the Marine personnel in that they were of an older age, men released from service, and many not considered acceptable for military life; a minority were women.

Because of the complexity of the group, no statistical inference will be made. It is not feasible to compare this group with a cross-section of civilian population, nor with the groups to be x-rayed at the next annual survey, when there may be greater stabilization of military personnel. Further, it is not a group similar to that of an induction or separation center. These subjects were of a select group, considered far above the physical status of the average population.

Method—The examinations were performed with miniature (35 mm) fluorograms. For those cases suspected of having any abnormality of the chest

CARDIOVASCULAR ABNORMALITIES

Conditions	*No. of Cases*	*Total Nos of Fluorograms*
Cardiac enlargement		
Hypertensive basis (3 civilians)	18	14,235
Aortic and Mitral insufficiency	1	
Abnormal cardiac contour without definite enlargement		
Aortic insufficiency	1	
Mitral stenosis and insufficiency	1	
Recovered rheumatic heart disease *	1	
Coarctation of aorta (civilian)†	1	
Dextrocardia without situs Inversus viscera	3	
Funnel chest—causing picture resembling cardiac enlargement	2	
Epicardial fat pads resembling enlargement	2	
Dextro-position of aorta	1	

suggesting active disease, 14″x17″ film was used to confirm or rule out the impression gained from the smaller film. When indicated, the men were examined and questioned and if necessary were admitted to the ward of the dispensary for establishment of a diagnosis when possible. Certain inherent obstacles were met with just as would be the case in any study of this sort. Technical difficulties, inability to reach cases requiring further examinations, particularly civilians, and lack of facilities for carrying out complete diagnostic or follow-up studies precluded a thorough investigation. Therefore, a few suspected cases of heart disease are not included in the results. By and large, the survey was complete. The following tables summarize the more important abnormalities diagnosed after the initial detection on fluorograms.

Numerous other conditions not listed in the above tables were found and investigated when deemed necessary. Obliterated costophrenic angles, azygos lobes, elevated diaphragmatic leaves, peripheral lung calcifications, resected ribs, cervical ribs, scolioses of dorsal spine were among the findings. Evidence of old healed empyemas, many with surgical drainage, composed a fair group of men reinvestigated. The majority of the personnel of this series was considered "healthy Marines"; studies of unexplored groups by public health departments, hospitals, and communities should reveal more productive results.

DISEASES OF THE CHEST OF A NON-CARDIOVASCULAR NATURE IN THE SERIES

Conditions	*No. of Cases*
Pulmonary Tuberculous lesion ‡	
a. Far advanced tuberculosis	1
b. Moderately advanced tuberculosis	4
c. Minimal tuberculosis	5
Mediastinal tumors	2
Bronchiectasis	1
Bronchogram (lipiodol instillation previously)	1
Fractured first rib (one resembled a tuberculous lesion requiring lordotic views for differentiation from an intrapulmonic defect).	2
Enlarged mediastinal shadows	
Mediastinal lymphadenopathy	2
Sarcoid (?) (civilian)	1
Miliary calcifications— (Histoplasmin (+) and tuberculin (—)	3

* This patient gave a history of having rheumatic fever associated with "murmurs and heart enlargement," being ill for a period of 4 months about 1 year before his fluorogram was taken. Physical examination was negative and further x-rays revealed no definite cardiac enlargement but did show a rounding of the left ventricular border, suggestive of left ventricular enlargement.

† Operated on recently, and following operation has been doing well.

‡ Three of these cases were civil service applicants.

DISCUSSION

The purpose of this paper is not to discuss the arguments for or against 35 mm size fluorograms. Any one of the several smaller sizes of film meets the criteria for mass procedures of this sort —practicability, economy, and general suitability, with slight advantages for each. They have already proved their value in mass radiography.[15-19] Further experimentation will undoubtedly continue to improve present methods until some of the remaining technical difficulties are solved. Perhaps a larger standard-sized film than used in this survey will come into general use, but increased resolution of film, fluorescent screens of greater brilliance, decreased aberration of lenses, and improvement of the viewers, are the prime needs at the moment to increase the standard of quality to approach conventional technique.[13, 20-22]

It was stated in reports by Hirsch that fluorography sufficiently delineated the position and shape of the heart and that with suitable correction factors the diameter of heart shadows could be determined according to the methods used in teleo-roentgenography.[23] Although the value of mensuration is realized, true measurements can be obtained only when the projection error of the rays is minimal. Usually the films are taken at a 6 ft. distance and some distortion occurs, with the heart appearing proportionally larger, though only slightly; the contour is not altered. Actually the appearance in fluorograms has its advantages in suggesting enlargement earlier. Nevertheless, when one has become accustomed to interpreting fluorograms he can quickly gain an *impression* from the cardiac size and contour whether any radiographic evidence of heart disease will be present. The most difficult evaluation is to differentiate true cardiac enlargement in a hypertensive from a heart transversely placed in a hypersthenic and obese individual; similar puzzling views are not uncommon on 14″x17″ film, despite attempts to eliminate the difficulty with thick-set persons by views taken in full inspiration and adequately exposed. Another difficulty which may lead to a misinterpretation is the prominent pulmonary conus frequently found in hyposthenic habitus. It must be stressed that the identification of heart disease from a chest film, regardless of size, is difficult; and a specific diagnosis without clinical investigation is to be condemned.

The number of cases of heart disease in this survey was larger than the incidence of pulmonary tuberculosis. This suggests that surveys of the general population, on older group, would reveal a further increase in the incidence and proportion of cardiovascular disease.

CONCLUSIONS AND SUMMARY

1. It is possible to detect cardiac abnormalities on routine fluorograms. Accurate diagnosis requires confirmation by further clinical investigation.

2. It is suggested by this series that the number of persons with demonstrable cardiac abnormalities on routine fluorograms is greater than the number of persons with tuberculosis in a given population.

3. Invaluable gains can be made when unsuspected heart disease as well as other thoracic diseases are diagnosed.

4. In any fluorographic survey cardiac disease should be looked for.

This report has been presented with the hope that roentgenologists interpreting miniature fluorograms will make an attempt to detect cardiac abnormalities routinely as well as those of a tuberculous nature. Accurate diagnoses must be made by clinical studies. The discovery of heart disease by mass fluorography is important, socially as well as economically, and it is submitted that this importance is comparable socially and economically to that of fluorographic tuberculous case finding.

The above report is not to be con-

strued as official or reflecting the views of the Naval Medical Department.

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Even with the Law on Our Side

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FOR many years public health workers have been writing articles for scientific journals. Some have recounted the incidents connected with outbreaks of epidemics which could have been prevented with the help of the "law." In this article we shall relate a series of incidents which ought to have caused an epidemic and only through the Grace of God did not—even though the "law" was on our side.

It is probable that no human food has had the benefit of so many millions of dollars of advertising as milk. If the eating propensities of Americans ever transmute us into a food-worshiping people, there is little doubt that the colossal image which will symbolize our God, or Goddess, will be a cow or a milk bottle. It is possible that all of this salesmanship accounts for the childish trust placed in the sanitary quality of any white liquid in a milk bottle of common or peculiar shape, though public health officials have fought long and sometimes bitter battles to guard the public from its misplaced faith.

Small wonder then that the saga of Typhoid Mary is one of the classics of United States folklore. It has been repeated, with variations, in many, many small communities, and some large ones. There is just cause for the harsh laws which have been passed to keep potential polluters of our abundant stream of life at a safe distance from the source of supply.

Our own health district took a sip—even more than a sip—of milk containing typhoid organisms, in 1926. In the summer and fall of that year, 154 cases of milk-borne typhoid occurred in Wellington, a village of about 2,500. The source was found to be a typhoid carrier who worked on a farm which supplied milk to a local dairy. During the preceding summer he had worked in a dairy in a neighboring county. An outbreak of 60 cases of typhoid fever among the patrons of that dairy was the accompaniment of his employment there, but he was not apprehended during the investigation. The next year he made his way to a farm supplying the Wellington Dairy. Ohio law forbids a typhoid carrier to engage in the food or dairy business. This carrier, when apprehended, was, therefore, legally separated from his calling—that of a herdsman. Fortunately, the State Department of Health found him a job, about its offices, where he worked until his death some years later. That was an easy victory for the law, but in the saga we are now to recount, the law trod a rougher path.

Our story begins late in August, 1931, when the Lorain County Health Department was notified by a physician that a young woman patient had typhoid fever. The patient was the daughter of a dairy farmer living in the county. The girl's father, a man of about 50, had had typhoid fever in 1895. The typhoid bacillus was isolated in a stool specimen secured from this man while conducting the routine epidemiology on his daughter. Here was a typhoid carrier.

Good sense and accepted sanitary procedure demanded that the carrier (whom we shall call W.) should at once be

prohibited from handling milk. Such orders were immediately issued by the Health Commissioner and were approved by officials of the State Board of Health. Everyone understood that it would not be easy for W. to comply with the order, but the dangers involved in any other arrangement were so great that he would have to. Besides, it was the LAW.

In May of the following year (1932) a representative of the Health Department found W. handling milk. He was arrested and charged with operating without a license and selling raw milk at retail without bottling. The case was nolled upon W.'s agreement to sign a statement saying he would personally quit milking and handling milk.

On March 17, 1934, W. was found milking a cow. He said he intended to continue. The law was resorted to again, and after numerous delays and postponement of the trial, a jury found W. "not guilty" because it was not convinced "beyond a reasonable doubt" that he was a typhoid carrier. The doubt grew out of the fact that W. had not been seen to void the stool in which the original finding of the typhoid bacillus was made. In fact, he said he had taken it from the privy which was at the far end of his barn.

The problem of establishing W.'s carrier status was turned over to the State Board of Health at this point. This body wrote several letters but never secured W.'s coöperation. On November 10, 1934, the case was returned to the local board of health.

The local board next undertook the drafting and passage of new milk regulations, since it was the opinion of counsel that those in force did not supply adequate coverage of the case. These regulations were passed July 13, 1935, and forbade a typhoid carrier to live on a dairy farm without the written permission of the Health Commissioner.

W. was, of course, refused permission to reside on his farm while milk was being sold. Although he had been notified the preceding March that new regulations were being drawn and that such a clause would be included, he continued his residence there. During this period the following sign was found posted in the milk dispensing room, where all customers could see—"This Milk Not for Human Consumption." The Milk Ordinance was then amended June 12, 1936, so as to deal with this new move. Two places in this ordinance containing the phrase "for human consumption," 4 "for consumption," and 8 "to consumer," were removed from the ordinance. This legal refurbishing never had to be put to the test, as subsequent events took the case in other directions.

On July 20, 1936, a purchase of milk was made at the W. Dairy, and legal action again started. After one postponement of the case by the court, the prosecution was informed by counsel that a demurrer to the affidavit had been filed and granted and that "the case cannot be heard until the demurrer is decided upon." This was on September 4, 1936. During the ensuing 6 months a number of attempts were made by the Health Commissioner to make contact with counsel, to learn what was holding up the action. All attempts being unsuccessful, the Board authorized the Commissioner to see whether the County Prosecutor would handle the case.

The County Prosecutor visited W. promptly, and after some correspondence with W. and his attorney advised the Health Commissioner that the gentleman in question was ready now to comply with all regulations, and that he was "having a typhoid test by his personal physician."

There being no word subsequently from W. or his counsel, the County Prosecutor took the case before a Common Pleas Judge, who ordered W. to comply or go out of business by August 1, 1937. Later in August, 1937,

the State Director of Health advised that a stool specimen from W. had been found negative by an unaccredited private laboratory. The State Director's suggestion that further specimens be sent to the State Board of Health Laboratory was passed on to W. and his physician. This advice was followed and a positive finding was made by the State Laboratory.

One would think that this confirmation of W. as a carrier would have cleared the legal air, but such did not prove to be the case. W. continued to press the Board of Health for a permit, and finally on August 11, 1937, one was approved with the stipulation that a letter accompany the permit setting forth the requirements which W. must meet. This step was scarcely taken when on August 14 the County Prosecutor notified the Board that the Common Pleas Court had enjoined W. from handling milk and milk utensils.

These developments were followed by a communication from the State Director of Health to W., stating that W. was a proven carrier and that he, as Director, forbade him to engage in any occupation connected with food or milk supplies.

On August 23, 1937, W. was arraigned in Common Pleas Court, on the complaint of the Health Commissioner that the court order of about June 1, 1937, "to comply with the regulations of the Health Department by August 1, 1937" had not been fulfilled. (It was noted at this time that there had never been a hearing on W.'s arrest in July, 1936. The Health Department had been represented in that case by the police prosecutor of the city near W.'s residence.) After the usual delays, the Health Commissioner was able to report to his Board on October 19, 1937, that the Common Pleas Court had found W. "guilty of being a typhoid carrier" and had ordered him to have no personal contact with the milk business; but to see that the quality of the milk conformed to the standards of the Lorain County Health Department. W. was also ordered not to use the privy or any part of the dairy barn for disposal of his excreta, until he could produce evidence that he was no longer a typhoid carrier.

It is of interest that during the following month, November, an attorney from the city near W.'s dairy sought information about W. The son of a client of his was ill with typhoid fever. The family used milk secured from the W. Dairy. A suit to obtain damages from W. was contemplated. The record does not show whether or not this suit was filed.

W.'s permit to sell milk was not renewed January 1, 1938. It seems probable that this position was taken because of extensive Bang's disease infection in the herd. A program of 60 days' retesting was set up and the minutes of the Board of Health contain several references to improved coöperation on W.'s part. On June 14, 1938, he was given a permit. This does not mean that no milk was sold by the W. Dairy, from January 1, to June 14, but that the degree of noncompliance argued against issuance of a permit. On the other hand, apparently improved relations did not suggest prosecution for operation without the permit.

On the 30th of the same month (June, 1938) a report of a case of typhoid fever was received from the Health Commissioner of the city near W.'s dairy. The report suggested that the epidemiology of the case pointed to the W. dairy as the source of infection.

Repeated tests of the animals in the W. dairy herd and removal of reactors did not materially reduce the Bang's disease. In July, 1938, W. was asked to pasteurize his milk. He agreed to do this and the plant was put in operation about December 1, 1938.

In October, 1941, the Health Commissioner of W.'s neighboring city reported

another case of typhoid fever, writing, "only source of infection that can be determined is W. dairy." He said that he understood that W. was handing out bottled milk to customers, in violation of the court order issued several years previously. This could not be proved.

However, on March 16, 1942, W. was found in his barn milking cows. He said he had been doing it for some time because of the shortage of help, and asked what would be done about it. A motion for citation in contempt of court was filed in the Common Pleas Court, in April, 1942. On June 29, 1942, W. was found guilty and fined $300 and sentenced to 10 days in jail on each of four specifications. The judge, however, ordered that the fine should be paid on one judgment only, and that the jail sentences should be served concurrently.

This should have settled once and for all the trying relations between W. and the Health Department, and given the public the protection it needed, but no such happy solution resulted.

The question of a renewal of the license—or the granting of a license—to the W. Farm Dairy, Inc. was immediately raised. By this time the demand that W. separate himself from the dairy business had been met by the formation of "The W. Farm Dairy, Inc.," with Mrs. W. as President of the concern. Mr. W.'s attorney sent word that "W. is no longer residing in the home." Counsel for the Health Department at this stage of the game was the Assistant County Prosecutor, since the Prosecutor had represented W. in his successful jury trial in 1934. The Assistant Prosecutor advised the Board that a permit should be issued to The W. Farm Dairy, Inc. "provided W. no longer works or resides on the farm." The permit was issued September 15, 1942. Note was made of the fact that a man and his wife had been employed to operate the dairy. This couple stayed approximately two months.

W. then requested permission to work on the farm until crops were harvested. This was discussed for some time and the request was finally granted. But on November 21, W. was still seen on the farm and objection was made to this. Nevertheless, a permit for 1943 was issued on advice of counsel, again with the stipulation that W. was not to work or reside on the farm. W.'s counsel countered with the statement that the corporation was complying with all laws, and that no further action was necessary "until the declaratory judgment case is heard." This declaratory judgment case was an action, carried to the Supreme Court of Ohio, testing the Common Pleas Judge's correctness in refusing to consider a motion for a new trial, because it was filed too late following the trial on June 23, 1942.

The Supreme Court of Ohio announced on February 10, 1943, that it would not consider the petition of W.'s counsel in the above declaratory judgment. W. was taken to the county jail to start serving his 10 day sentence. He was released after 2⅓ days, on a habeas corpus action, granted by the Court of Appeals.

W. was then cited immediately by the Assistant Prosecutor on a new contempt of court charge based on evidence secured by deputy sheriffs when they went to his home to take him to jail. They found him in the barn.

He was again found in the barn by a Health Department inspector, before the hearing on the second contempt case. During this interval a public sale was held on the W. farm. Some of the cattle and part of the equipment were sold.

On March 23, 1943, the Common Pleas Court Judge found W. guilty in the second contempt case and pronounced a sentence of 10 days in jail, and a $500 fine. Motion for a new trial was filed immediately by the defense. W. was taken to jail but was released

after 2 days on bond fixed by the Court of Appeals.

The habeas corpus writ on which W. had been released from jail following his conviction in the first contempt case was passed upon by the Court of Appeals on June 28, 1943. The Appeals Court sustained the judgment of the Common Pleas Court. On June 29, 1943, he was held in contempt and was taken to jail, but was released the following day. The following Journal entry was made by the Clerk of Courts June 30, 1943: "The defendant herein, having this day paid to the Clerk of Courts the sum of One Hundred fifty-three and 47/100's Dollars ($153.47), and all unpaid costs to date, the Court, on its own motion, does suspend the second fine of $500.00 and ten (10) days in jail and also the unserved days in jail under the first conviction, said suspension to continue so long as the defendant complies with the injunction here." So ends the official record of twelve years of legal sparring, for the "W. Farm Dairy" surrendered its permit and no evidence of milk sales has been observed since.

Examination of the records of the Clerk of Courts and inquiry of the county sheriff show that in all W. paid one $300 fine, $119.11 in court costs and served 5⅓ days in jail. This seems modest treatment in view of the fact that there were six arrests and that the charges involved a matter of extreme importance to the public.

If profit is to come from this article, we believe it will come because we have highlighted the fact that "having the law on your side" and "knowing that you are right" does not always protect the public. The average farmer, bent with work and marked by the elements, is a defendant whose appearance and vocation weigh heavily in his favor. This point, perhaps, cannot be fully appreciated by those who deal only with city dwellers. Also, the necessity for keeping our story in hand has prevented a recital of the multitude of legal devices such as demurrers, postponements, appeals, habeas corpuses, etc., which prolong the danger period. Implicit evidence of this is the fact that although constant effort was exerted for twelve years to keep W. away from milk, he was repeatedly found in contact with it. At one time the Health Department had cases pending against this defendant in the Common Pleas Court, the Court of Appeals and the Ohio State Supreme Court. It may be helpful to point out that no case was won in courts below the Common Pleas Court, and none was lost in the Common Pleas or higher courts.

Finally, it might be pointed out for the benefit of those workers in public health who have not realized it before, that one of the foundation stones of legal philosophy in this country is that it is better for many guilty persons to go unapprehended than to have one innocent person convicted.

Awareness of this principle is imperative as regulations are being drafted, evidence collected, policy formed, and affidavits drawn.

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NURSING AND NURSING EDUCATION

THERE have been two major signposts on the road to a clearer comprehension of the rôle of the nurse in modern society and of her preparation for her calling —Josephine Goldmark's classic report for the Committee for the Study of Nursing Education in 1923, and the monograph, "Nurses, Patients and Pocketbooks," prepared by May Ayers Burgess for the Committee on the Grading of Nursing Schools, issued in 1928. Esther Lucile Brown has given us a third document of almost equal importance in a recent report, "Nursing for the Future," prepared for the National Nursing Council and published by the Russell Sage Foundation

Perhaps the most outstanding feature of this document is its recognition of the complexity of the problems involved. Dr. Brown analyzes the actual functions fulfilled in the provision of nursing care and makes it clear that there are at least two quite different types of workers needed in "nursing"; and that—for the present at least—a third, middle category must be recognized between the other two. So long as attention is focused solely on the graduate nurse, "no other avenue is open except that of the present frantic and probably futile effort to recruit more prospective R.N.'s. Even appreciably better educational preparation is likely to be denied them, so insistent will the demand for nursing service continue to be. Once emphasis is shifted to *nursing*" (rather than to nurses), "however, several roads seem to point to potentially larger supplies of service and to possibly increased efficiency both on the nonprofessional and the professional levels."

In connection with a group of simpler functions, there is clearly a need for what Dr. Brown describes as "non-graduate" nursing service, such as is rendered by the "practical nurse," or attendant, the orderly and the ward maid. As to the preparation of the practical nurse, the 1947 study of the U. S. Office of Education is cited with general approval; and Dr. Brown notes the opportunities offered by vocational or adult education units of the public school system. She points out, however, that "No system of training for practical nurses is likely to succeed unless the public that creates broad general policy and provides funds, educators who design and operate instructional programs, hospitals and agencies that provide

clinical facilities, and nursing associations and state boards of control that set standards and influence recruiting are prepared to manifest an *active* interest in practical nursing far beyond any interest yet shown."

At the other end of the scale, Dr. Brown discusses with admirable clarity the functional rôle of the "professional nurse." She analyzes in some detail the responsibilities of such a nurse as a skilled technician, as a minister of the healing art (with particular emphasis on psychotherapy), and as a specialist in supervision, administration, teaching, consultation, planning and promotion of professional activities and public health nursing (above its lowest levels). It would be desirable that Chapters IV and VI of "Nursing for the Future" be made required reading for the individuals and groups who are now advocating various nostrums for the cure of the nursing shortage, without knowledge of the actual status of nursing and nursing education which can alone make their pronouncements of significance. Dr. Brown recommends that the term "professional" when applied to nursing education "be restricted to schools (whether operated by universities or colleges, hospitals affiliated with institutions of higher learning, medical colleges or independently) that are able to furnish professional education as that term has come to be understood by educators." When operating in institutions of higher learning, such schools should be "autonomous units vested with the same status as the other professional schools." She urges that "individual persons, informed groups, and private corporate bodies including foundations and institutions of higher learning themselves, make the largest possible sums available for the creation and strengthening of soundly conceived college and university schools of nursing" and "further, that official bodies—local, state, and federal—concern themselves at once with supplying whatever additional resources are necessary for the adequate support of nursing education on the professional, as well as the non-professional level."

Between these two extremes—of the non-graduate nursing aid, on the one hand, and the truly professional nurse, on the other—stand the graduates of most of the hospital training schools of this country. Whether a middle group of nurses of this type will ultimately be desirable, Dr. Brown holds that we cannot conclude at the present time. It may be that the dynamic forces at work in this field will increase the number of "professional" nurses and raise the quality of "non-graduate" personnel so as to close the gap. At present, however, the vast majority of persons with any training in nursing, come from the middle group. A substantial proportion of the present schools should certainly be closed as "socially undesirable" or turned into training centers for non-graduate personnel. In a rating by the U. S. Public Health Service, of 1,125 schools of nursing participating in the programs of the Cadet Nurse Corps, 30 per cent were rated as "poor" or "very poor." The "fair" and "good" schools should be improved—in various specific directions, outlined in the report, with "experiments in simultaneously shortening the period of training but improving the course of study." The best of the hospital schools should be encouraged to attain professional status by affiliation with adjacent educational institutions. Dr. Brown strongly recommends that "nursing make one of its first matters of important business the long overdue official examination of every school"; and the widespread circulation of a comprehensive list of accredited schools, with the unequivocal statement that this list includes all schools except those which had failed to meet minimum requirements or had refused to permit examination.

This report has been prepared with expert judgment, temperateness and vision. It presents principles which are essentially sound, and opens the door to fruitful

experimentation and planned progress. It is not a detailed blue print but a challenge.

The bright hopes with which we all hailed the Goldmark Report and the creation of full-fledged University Schools of Nursing at Yale and Western Reserve, a quarter-of-a-century ago, have not been realized. That example has not been followed by the general advances elsewhere which we anticipated. In preparation of personnel for nursing the sick, we have developed neither an adequate training for the non-graduate nursing aid, nor a sufficient number of high grade schools for the education of the professional nurse. Hospital training schools for the most part remain primarily convenient devices for securing unpaid hospital service. They cannot become, in any true sense, educational institutions, until they are provided with adequate funds for educational purposes.

Today, the shortage of nursing personnel makes the solution of this problem more immediately urgent than ever before. It is a problem which can be solved only by the vigorous and ample support of both private philanthropy and official governmental agencies. The solution must, however, be worked out by the nursing profession and sold by the nursing profession to the public. There is no body more open-minded and earnest in its response to new ideas than the nursing group. This group is reading the report and thinking about the report, and discussing the report. Something more than thoughtfulness is, however, demanded of the nursing profession today. It is a time for action.

WE PAY THE PIED PIPER

REMEMBER the story of the city of Hamelin? As a child I recall the feeling of loathsomeness that crept over me as I read of the trials of that little city in its efforts to rid itself of the uninvited and unwanted four-legged guests. There was the feeling of jubilation when the Pied Piper, that good fellow, walked down the street with all of the rats of the city intoxicated by the music of his pipe following him to their death. But the story ends with a tragedy; all of the children of the city are led away by the Piper because his bill for killing the rats was not honored.

Today we are paying the price of the Piper in practically every city of the nation, and in many parts of the world the Piper's penalty is being exacted—and we are not ridding ourselves of the rats!

Hans Zinsser in his delightful volume, *Rats, Lice and History,* quite appropriately dwells on the history of the rat and on its importance. He says, "It carries diseases of man and animals—plague, typhus, *Trichinella spiralis,* rat-bite fever, infectious jaundice, possibly trench fever, probably foot-and-mouth disease and a form of equine 'influenza.' Its destructiveness is almost unlimited." To this imposing array of health hazards can be added *Salmonella* infections through contamination of food by the discharges of rats.[1]

The economic price paid for condoning the rat population in our midst has been estimated by numerous investigators. Silver *(op. cit.)* has estimated the rat population to be 60,000,000 on farms; 34,000,000 in non-farm country residences and in towns of less than 10,000 population; and 29,000,000 in cities of more than 10,000 population. This gives a total of 123,000,000 for the country as a whole. Various estimates place the cost of each rat at 2 to 4 dollars per year. Even in

these days of generous spending the loss is considerable. This is part of the Pied Piper's price we pay.

Food is a political force in the world now, perhaps as never before. We have been told that at least 400,000,000 bushels of grain must be made available to Europe to prevent starvation and the unrest that will otherwise be unavoidable. Recent estimates of the U. S. Department of the Interior put the loss of grain due to rats at 200,000,000 bushels per year. This loss is made up in part by the amount eaten, plus an even larger quantity rendered unfit for human consumption by rat contamination or damage. These 200,000,000 bushels can save many lives. Until we stop this avoidable loss we continue to pay the penalty imposed by the Piper.

Public health workers of all categories are now presented with an unequalled opportunity to reduce the danger to health presented by the presence of hordes of rats. They can contribute to the economic welfare and political stability of the world at the same time. The National Urban Rat Control Campaign sponsored by the National Committee for Rat Control, and the Fish and Wildlife Service, U. S. Department of the Interior, has riveted the attention of civic officials on the rat problem. Even though the amount of money made available for the use of this committee was woefully small, it has already stirred up nation-wide interest, has obtained numerous newspaper and magazine articles on the subject, and has appealed directly to the governing bodies of every city of 10,000 population or more for intensive action to eliminate the rat. By the end of June 570 cities had given serious consideration to active rat-eradication campaigns. To this, should be added the list of industries, granges, restaurant, dairy and similar groups that have taken up cudgels against this foe. The health department is the logical body to undertake a continuing program if present enthusiasm is to be used to the fullest extent.

There is no reason why rats cannot be kept in control in any area if public interest demands it—and makes funds available. The fronts upon which the rat population can be attacked remain fourfold: killing the rat itself by trapping, poisoning or gassing; depriving the rat of food supplies; elimination of breeding places; and ratproofing buildings to prevent access. For satisfactory control, all of the four methods of attack must be utilized. Furthermore, the program must not be a sporadic one but must be continuing, for best results. That is why the health department, because of its interest in rat eradication as a disease prevention procedure, seems particularly qualified to take leadership in the programs. The public must be convinced of the desirability of rodent control measures, and funds must be made available to permit the employment of properly qualified staff, and development of effective measures.

Recent activities serve to demonstrate ways by which resources can be brought to bear on rodent control programs. A recent paper in the *A.J.P.H.* relates experiences in Baltimore to show that citizen interest and participation can be obtained with satisfactory results.[2] The City of St. Louis has seen the advantages of a section of the Health Department, organized for the specific purpose of carrying on a rat control program.

The development of at least two new rodenticides makes the mass killing of rats easier. Antu (alphanapthylthiourea) has been found particularly effective against the brown rat. Another new resource is Compound 1080 or just plain 1080 (sodium fluoroacetate). Although highly toxic to men and so necessitating close supervision by a thoroughly qualified person, use of this chemical has

produced phenomenal kills. The old stand-by, red squill, is back to pre-war potency, and other favorites are again available.

Numerous good bulletins have been prepared outlining methods for the most effective ways of achieving success on the four-front attack. The U. S. Public Health Service has done outstanding work in preparing usable pamphlets. Several of the state health departments have made commendable contributions in this field. Commercial pest control organizations are meeting their obligations by intensive publicity to their members telling them of new and approved methods.

Here is a "made" situation for every health department. There has not been any other opportunity as great as this for the creation and stimulation of effective rodent control programs. All members of the public health team, the administrator, engineer and sanitarian, the nurse, and the epidemiologist, are keenly concerned with the successful operation of these programs.

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THE COMMUNICABLE DISEASE CENTER AT ATLANTA

THE Communicable Disease Center of the U. S. Public Health Service was established in Atlanta, on July 1, 1946, but its purposes and possibilities deserve wider understanding than they have yet received.

The principal responsibility of this Center is to assist state and local health agencies in the control and prevention of communicable disease by providing, when requested, facilities not ordinarily available to their health departments. These facilities take the form of personnel, equipment, supplies, and professional services; the Center makes no monetary grants-in-aid.

To assist in the diagnosis of communicable diseases, the CDC accepts from state and local health laboratories limited numbers of reference specimens presenting diagnostic problems beyond the resources of these laboratories. To the technicians employed in these laboratories, it offers refresher courses in various fields of laboratory diagnosis. To maintain high standards of technician interest and performance, test specimens and materials are sent each month to a large number of health laboratories. Evaluation studies are conducted on the sensitivity and specificity of many laboratory procedures.

The CDC assists in the control and prevention of communicable diseases by transmuting appropriate scientific facts about communicable disease into experimental control practices, field-testing them on progressively larger scales and under diverse conditions, until their effectiveness and practicality are proved. It promotes the use of proven procedures by demonstration and by training health personnel in their utilization. Operational control programs, involving the efforts of several states, are coördinated by the Center and are expedited by its technologic assistance in the design, fabrication, and field evaluation of equipment for the dispersal of sprays, dust, and aerosols, and of chemicals used in the control of arthropods, helminths, and rodents of public health importance.

The Center provides investigative and consultative services for the states and communities where communicable disease outbreaks occur or where continued threat of such outbreaks may exist. At the request of state health authorities, epidemiologists and mobile laboratories are dispatched to the scene of epidemics

to determine their cause, sources, and extent. Where possible, control procedures are recommended and, in emergencies, are actually initiated, pending the mobilization of local and other resources. Veterinary public health assistance is offered in epidemics involving both man and the lower animals; consultative services are available, upon request, to state and local health agencies in formulating effective immunization regulations to prevent such outbreaks.

The Communicable Disease Center is the designated agency of the U. S. Public Health Service to render assistance to communities in major disasters. It works closely with the American Red Cross but directs its efforts specifically at the prevention of post-disaster epidemics and in the rehabilitation of local sanitary facilities.

Facilities are available at the Communicable Disease Center and in its training areas for the field training of public health personnel in the diagnosis, control, and prevention of communicable diseases. Publications and audio-visual aids of a technical nature are produced at the Center to implement the training program, and for use by state and local health departments and by certain professional schools. No materials are developed for lay or community health education. As a result of demonstrating and promoting improved techniques in the practical methods of control in communicable diseases, and by the training of health personnel in the field application of these methods, it is anticipated that state and local health departments will extend their interest and effectiveness in programs of communicable disease control.

LETTERS TO THE EDITOR

To the Editor:

I wish to thank you for your generous praise of the United States Public Health Service in the editorial which appeared in the July *A.J.P.H.* In it you have caught the spirit of increasing concern of both the people and the Congress for the nation's health as evidenced by an expanding Public Health Service program. Frequently, in our staff meetings, we have long discussions of some change proposed by the Federal Security Administrator or ourselves, in either management services or programs, and invariably some of us cling to the past and object to change only to find that the health picture and the programs of the Public Health Service are dynamic, and that with their constant change must come inevitable changes in our approach to the problems.

I appreciate your confidence in the Service and your kind words regarding its administration of the trust bestowed in it by Congress and the people. I believe that health is now a major issue in the minds of all people and will continue to be that throughout time. I believe we are only scratching the surface at the moment and that the coming years will see far more official and voluntary action in the health field than we have had in the past, paralleled by general improvement in the health of the nation. One thing which we have jealously guarded in the past must be guarded in the future; the Public Health Service must remain a technical agency with broad authority, and must not in any sense be placed in a position where it can be guided by party or politics not in the best interest of health.

I believe that the next steps in public health should include provision of more adequate financial support to professional schools to enable them to secure

their present, and in some cases insecure, status, and to enable them to increase the number of persons being trained. This will help to overcome professional personnel shortages, improve training and increase the opportunities of the people for more adequate medical care.

I am hopeful that there will be a positive and successful drive in the next eighteen months to extend local health services throughout the nation, and that it will be possible within the next year to provide increased support for extension of these services by grants to states, at least up to the limit of the ceiling set by the 78th Congress in 1944. I am confident that the needs of the states for assistance will be more swiftly met by early passage of categorical legislation stressing the importance of local health units as the foundations for healthy, happy communities.

During my administration the Public Health Service will continue to utilize the best advice available from individuals and organizations outside government in the further development of its programs. If we develop our plans with their help, we can keep "State medicine" the good health service to the public which your editorial described—and history has shown our program to be.

LEONARD A. SCHEELE
Surgeon General
U. S. Public Health Service
August 23, 1948

TO THE EDITOR:

In his view of Carl Malmberg's *140 Million Patients* * which you published last spring, Dr. George Baehr presents a criticism of nation-wide compulsory health insurance which deserves serious attention.

Dr. Baehr does not oppose compulsory health insurance in principle, and he recognizes essential inadequacies in voluntary insurance; but he fears that a national health insurance law would saddle us with more demands and obligations than we can meet and that we must *first* get more and better distributed doctors, hospitals, and local health departments; must extend group medical practice, voluntary health insurance plans and regional hospital organization; and must "educate the public and the medical profession concerning medicine in the changing order." The standards of the profession can thus be maintained and the quality of service improved.

I am in full agreement with Dr. Baehr's objectives but I do not believe they can be attained unless we *first* have comprehensive public action on the economic problems of medical care.

Without national health insurance, organized medicine and its allies will be able to channel the inevitable growth of voluntary health insurance plans into forms quantitatively insufficient and in most cases qualitatively undesirable, compelling these plans in all but a few exceptional instances to fall within the pattern of individual practice, limited scope of service, unsupervised quality of care. Tax-supported medicine will also increase for special categories of persons and of disease. It will be available as a rule only to those who can pass a means test and will mostly be either direct state medicine or individual "panel practice."

I had hoped for an evolutionary development of group practice along with prepayment when I signed the *Report of the Committee on the Costs of Medical Care* in 1932, recommending essentially what Dr. Baehr now proposes. But observation of the course of events

* *A.J.P.H.*, 38, 4:573, (Apr.), 1948.

and analysis of the forces at work on all sides of these issues, have convinced me that this outlook is academic. By 1942 the door seemed to me definitely closed to the possibility that leadership from physicians like Dr. Baehr would be accepted by official organized medicine and followed by the body of the profession. Soon thereafter I expressed myself publicly, for the first time, in behalf of the prompt enactment of national health insurance, and have since done what I could to support and improve the legislation proposed to establish it.

The major professional problems of organization, distribution, and quality of medical services cannot be solved without more assured and more stable paying power on the part of patients, nor without some increase in paying power among self-supporting families of the middle and lower income groups and in the poorer areas. Nor can they be solved, I readily admit, by these economic measures alone. But the establishment of national health insurance would do more than merely provide the needed improvements in paying power. It would also create active demand among many laymen for improved forms of medical service, because it would assure the wherewithal to achieve these ends and would make it worth while to utilize the advice and leadership of progressive physicians and administrators.

It would remove the financial barriers to preventive services and to early diagnosis of disease. It would increase and stabilize rural paying power for physicians and hospitals, and would at long last reverse one of the major causes of rural medical impoverishment. It would assure the continued independence of voluntary hospitals, and provide payment of cost-of-service for care rendered insured persons and their dependents.

Potential group practice plans and their doctors could be assured of income from the health insurance funds. A properly designed health insurance law would permit the majority of physicians to select the method of practice and payment which they prefer, and would also protect minority groups in the same freedom of choice. In sum, national health insurance would create new incentives for both laymen and physicians to achieve professional and economic goals conjointly.

The fear that national health insurance would be premature and disruptive arises partly from misunderstanding. Dr. Baehr shares this misconception when he says that the proposed law "would promise all workers complete and adequate medical care wherever they may live." No sensible advocate of national health insurance and no proposed legislation makes any such promise. I bespeak study of the actual proposals and of the timing of the steps toward their realization. It is time now for progressive physicians, public health and hospital administrators who work to improve the standards of medicine, to sit down with leaders in the lay groups who, as at the National Health Assembly, demand prompt, nation-wide application of the health insurance principle. By such coöperation, results desired by all can be achieved.

MICHAEL M. DAVIS

October 7, 1948.

Clearing House on Public Health Salary Information

WHY NOT JOIN THAT NEIGHBOR

The latest list of local health officers in Mississippi has just been received. It furnishes a classic text for a sermon that cannot be too often preached in the attempt to solve the problem of current personnel shortages which is due in part to salary levels that put health workers at a disadvantage with other professional workers of comparable training in a community.

Mississippi, with the lowest per capita income among the 48 states, has 82 counties, 9 of which had 1940 populations of approximately 50,000 or more and only 1 of which had more than 100,000 persons.

The list of health officers indicates that 52 counties, including the most populous 9, are organized to have single county health departments; 6 are organized in three bi-county units, 3 in a tri-county, and 4 in a four-county unit. Two of the single county departments, each serving populations of less than 20,000, are currently without the services of a health officer, as is the three-county unit with a population of nearly 50,000. Four counties are served by acting directors who have other responsibilities in the State Health Department or elsewhere. Significantly, 11 counties and a bi-county unit are served by acting directors who are the health officers of neighboring counties, and in two instances health officers are shared by two counties or by a county and a bi-county unit without their being reported as multi-county units. Of these 14 temporary combinations none serves a population of 100,000 and 6 serve fewer than 50,000 persons.

The inevitable question that comes to mind is "Why are the partners of these temporary companionate marriages not led to the altar and blessed with the marriage lines?" Does a county with 19,000 population hope to attract or pay for a trained health officer and other professional personnel in the present market, or for a long time to come? Is not this the time to snatch victory out of adversity?

It should be added further that Mississippi has 8 counties with part-time health officers, presumably giving their major attention to private practice, and 7 unorganized counties.

If the findings of the Subcommittee on Local Health Units have any validity, the entire population of Mississippi could be served by from 30 to 40 local health departments. The state has 35 medical health officers currently on the job locally. Why should they not serve the entire state and their salaries be increased proportionately so that they would not be raided by states paying higher salaries? It cannot be too often repeated that suitable administrative organization is a part of the salary and personnel problem.

It should be added that a similar situation could be found in the list of health officers of any of a dozen other states. Mississippi is merely more up-to-date in furnishing a current list of health officers.

WHAT YOUR 1948 SALARY BUYS

Material that might be used with good effect in persuading appropriating bodies of the need for increasing public health salaries is an article in the August

13, 1948, *U. S. News and World Report* (24th and N Streets N.W. Washington 7, D. C.). Entitled "Where Buying Power Goes Up," this indicates that price rises have offset the 1948 tax cuts for the majority of persons, leaving them worse off in 1948 than they were in 1947. All persons with 1948 incomes of less than $12,500 have less buying power in 1948 than in 1947. A married man with two dependents who had a net income of $7,500 in 1939 needed to have $15,809 in 1947 to have the same buying power as in 1939, but in 1948 he needed only $15,168 or nearly $600 less. But the man with an income of $5,000 needed $9,769 in 1947 and $9,819 in 1948 to maintain his purchasing power. The $2,500 man of 1939 needed $4,511 in 1947 and $4,664 in 1948 to maintain his standard of living.

"What all this means," the *U. S. News and World Report* points out, "is that people have had to change their ideas about salary ranges," and what that means to the appropriating body of County X is that if $7,500 was a proper salary for its health officer in 1939, $15,000 plus is its 1948 equivalent, and if he had reached the rarified atmosphere of a $10,000 salary in 1939, he now needs $20,650, if he is not to seek greener pastures in other states or other activities.

The report is accompanied by excellent pictograms in color that do not require the reader to be statistics minded in order to grasp the significance of the figures.

Credit Lines

A NEW TECHNIQUE FOR RECRUITING NURSES

The Ohio State Nurses' Association and the Cleveland Health Museum have coöperated in creating a special Nursing Education Exhibit entitled "What Nurses Do." It has a three-way goal: (1) to attract qualified young women to the nursing profession, (2) to tell the public about the nurse's educational backgrounds and the value of her services to the community, (3) to emphasize the varied duties in the six major nursing fields.

The exhibit had a preview showing in the Cleveland Museum of Health in October beginning with a special ceremony on October 2, at which Haven Emerson, M.D., made the keynote address. The exhibit is now being featured in special showings throughout the state.

A LIVING WAR MEMORIAL

The National War Memorial Health Foundation; A Living Memorial, The Plan for People's Centers; and Why People's Centers; are three pamphlets that tell how the idea for a living memorial to the 10,000 South Africans who gave their lives in the 2nd World War, was born among the South African troops themselves during the Italian campaign. The story goes that they read and reread the famous "Four Freedoms" on the lire notes they received as pay. They mused on the reasons why Cape colored troops of Africa showed a lower disease rate than European troops of Africa, though in Africa itself conditions were reversed. They suspected freedom from want was the answer and they planned a war memorial that would "bring to the needy of South Africa freedom from want and freedom from fear." And forthwith they pledged 17,000 pounds out of their own army pay.

Out of this grew the health foundation which is concentrating its efforts on promotive health. People's centers are being set up to promote good health and living conditions for all sections of the country, with special regard to the needs of the non-European. Eight regional offices have been opened.

These pamphlets are available from the National War Memorial Health Foundation, P. O. Box 8446, Johannesburg, South Africa.

TEN YEAR DENTAL PROGRAM

A citizen's committee of Askov, Minnesota, which in 1940 was a hamlet of 312 people, initiated a request for a 10 year dental program which is now being furnished through the coöperation of the U. S. Children's Bureau, the Minnesota Department of Health, the Minnesota Dental Society, and the 6 practising dentists of Pine County.

The aim of the program is to find out how much dental improvement can be effected by using every known method of promoting dental hygiene. All Askov children from 3 to 17 years of age and other children attending the Askov high school, a total of about 350, will be included in the program.

There will be periodic application of fluorine to the teeth of children, brushing the teeth with a dibasic ammonia dentifrice, frequent dental checkups with prompt repair of all cavities, and continuous education in nutrition and general health measures.

The State Health Department's Dental Division Director, William A. Jordan, D.D.S., is supervising the program, and furnishes a dental health adviser. The actual dental work is being done

by the 6 dentists of the county, the community provides office space, a full-time clerk, and funds to pay dental fees of families who cannot pay their own. Preventive work is financed by the program, but corrective work is paid for by the families at a scale set by the participating dentists. The program began operation shortly after the opening of the school year in September.

TRAINING MANUAL, U.S.P.H.S.

Although orientation is already an overworked word, the concept that it represents—making it possible for a worker to see what he does in relation to the whole program of his organization and giving him perspective on its importance—is far too often forgotten. As an orientation and training manual for U. S. Public Health Service workers, the Communicable Disease Training Center at Atlanta, Ga., under the direction of R. A. Vonderlehr, M.D., has prepared "For the Nation's Health."

It has excellent historical material on the Service, and good short descriptions—with illustrations, humorous and photographic—of its activities. Though not intended for that purpose, it would also serve admirably to give workers in other fields and the public generally, perspective on this important federal agency.

The fly leaf says "Material in this manual is not for publication." But if it were wanted badly enough, the Communicable Disease Center, 605 Volunteer Building, Atlanta, Ga., might part with a copy.

WEST VIRGINIA'S MOVIES CATALOGUE

West Virginia has joined the list of state health departments that have prepared a list of films available on loan from the department's health education service.

The mimeographed list of some one hundred films is divided into 13 subjects; there is uniform name, facts, description, and suggested use information for each film as well as blank spaces for additional films on the subject.

The use of simple line drawings and colored paper on alternate pages and good workmanship generally make it a pleasing as well as a useful document. Also the list is prefaced with a discussion of the film as an aid in education but not as a substitute for the teacher. There are also suggestions on how to use films and exact instructions on film borrowing procedures. There is no indication whether it is available outside of the state but the address of the State Health Department is Charleston 5, W. Va.

TEXAS CANCER BULLETIN

Now in its fourth issue the *Texas Cancer Bulletin* is published bi-monthly by the Texas Cancer Coördinating Council, representing the State Medical Society, the State Health Department, the State Cancer Hospital, and the Texas Division of the American Cancer Society. On the theory that the family doctor is the one who sees cancer in its early stages, its purpose is to "convey to the physician in brief, meaty form, the results of important researches in the varied fields of cancer" with emphasis on the "time-tested and proven techniques" but not omitting "News."

It is also an excellent production job—attractive colors, good illustrations, print that is easy to read. Editor, Russell W. Cumley, Ph.D., M.D., Anderson Hospital for Cancer Research, Houston, Tex. $4.00 per year.

MORE MINNESOTA HEALTH DAYS

In February, six southwestern Minnesota counties held a Health Day (*A.J.P.H.*, May, 1948, p. 718). This was followed by the formation of a number of local or county health councils. Six additional Health Days were held in September and October with

each group including from 5 to 14 counties and totaling 52 counties. Governor Youngdahl addressed each of the meetings which included group discussions of local health problems, health films, and keynote speeches. It is expected that local or county health councils will grow out of these district health days. The meetings were sponsored by the Woman's Auxiliary of the Minnesota Medical Association, and the State Health Department helped in organization and publicity. Twenty-four counties will be covered in future Health Days.

THE HOME TOWN REALITY OF A FEDERAL POLICY

Nearly two years ago the *Ladies Home Journal* started a Public Affairs Department under the editorship of Margaret Hickey, (*A.J.P.H.*, 37, 4:463). The October, 1948, issue has two related articles that are significant not only for the information they give but for their method of presentation. One article is "Next Steps in Medical Care," an analysis of the program of the U. S. Children's Bureau for the extension of maternal-and-child-welfare services through a doubling of Congressional appropriations between 1947 and 1948. The other article is "Mountain Mothers" which tells for the layman, or perhaps better the laywoman, the story of the Oneida Maternity Hospital serving the sparsely settled mountain region of Clay County, Kentucky, and financed in part by grants from the Children's Bureau. Miss Hickey makes real the hardships of the mountain women, the struggles the hospital management suffered from the time in 1941 when it opened with a staff of a nurse, a cook, and a doctor, to the present time when there is a staff of twenty-five and affiliation with the Louisville Medical School. This is an outstanding example of humanizing for the reader the general facts about coöperation between state and federal authorities and the principles of federal grants-in-aid to states for health and medical services needed and planned by local communities.

THE HABIT OF ANNUAL MEDICAL EXAMINATIONS

In his annual report, Edwin S. Burdell, director of Cooper Union (Cooper Square, N. Y. 3), says "If college students already haven't the habit of annual physical examinations, it is up to the schools to help them acquire the habit and to encourage those with ailments to do something about their defects in terms of appropriate private or public health organizations."

In accord with his belief that educational institutions must assume responsibility in the field of preventive medicine, Cooper Union's 2,000 undergraduates are required by its student health program to have physical examinations at least annually. Twenty per cent examined by the staff physician are found to have remediable ailments and are referred to appropriate specialists for correction. Sometimes also a reduction of subjects carried by the student is recommended until corrective measures have operated. In 1947–1948, 567 students were given supplementary examinations at their own request. In the same year, 1,753 students received chest x-rays of whom 2 per cent were referred to the Department of Health's Chest Clinic and three with active tuberculosis put under medical care.

ATTRACTING ATTENTION WITHOUT SHOUTING

Canada's Health and Welfare is less than three years old. But it would put many an older publication to shame. Its July, 1948, issue, which includes a Family Allowances Supplement, is a joy to behold with sprightly pictographs, simple writing, and subdued colors. The chart showing the allocation of the $17,000,000 annual national health grants

for various purposes is an original way of presenting conventional pie chart material. Information Services Division, Department of National Health and Welfare, Ottawa, Canada.

KNOWING YOUR OWN DEPARTMENT

Among the innovations of Harry S. Mustard, M.D., Health Commissioner of New York City, is a manual for employees entitled "You and Your Department of Health." This 50 page document might well serve as a model for other health departments. It is neither mealy-mouthed nor saccharine but says what it means and means what it says. The mailed fist never appears but rather the velvet glove. It was prepared by the Personnel Bureau whose director is William Brody. It is amusingly and effectively illustrated by Tom Darling, of the New York Tuberculosis and Health Association, an interesting example of voluntary and official health agency coöperation.

A GOOD BREAKFAST CAMPAIGN

A recent sampling study of 1,200 West Virginia school children showed that only 10 per cent ate an adequate breakfast; of the other 90 per cent, one out of every ten had no breakfast at all. The State Nutrition Committee and the State Departments of Health, Education, and Agricultural Service took this to mean that a long-range Good Breakfast program was in order. A two year program is now being carried on throughout the state through newspapers, radio, posters, exhibits, leaflets, and other mass education media, and by county health departments giving such material to clinic patients, to families during home visits, to schools and other groups. The state health department is integrating the program in its nutrition activities.

An interim report, with charts, pictures, etc., about this program is available from Estelle Ingoldsby, Chairman, State Nutrition Committee, State Department of Health, Charleston, W. Va.

WHAT SHALL CHILDREN LEARN ABOUT FOOD

In Union County, Florida (with a population of less than 10,000 and part of a tri-county health department), school health examinations revealed that nutrition was among the urgent problems needing attention. Instead of teaching the general theme "Good food is good for everybody; we should eat more of it," a study was undertaken to find what children were eating and in what respects each child's food was deficient. For three days all children in the third to seventh grades reported on what they had eaten. How the study was carried out, what it showed and what some of its health education by-products were is told in "What Shall We Teach Our Children About Food," available on request from Nutrition Investigations and Services, Florida State Board of Health, Box 210, Jacksonville, Fla.

OFFICIAL LANGUAGE NEEDN'T BE STUFFY

The Cancer Control Letter of the National Cancer Institute reached its 9th issue on August 17. It is written in refreshingly simple language that somehow manages in itself to satirize the gobbledygook too often found in official documents. Has a lot of valuable information and is presumably available from National Cancer Institute, Washington, D. C.

WORTH ACQUIRING

The Rôle of the Voluntary Health Agency in Promoting Public Health Services in Iowa is by George Nelbach, recently moved up from Secretary to Consultant of the New York State Committee on Tuberculosis and Public Health. An address made at the 1948 meeting of the Iowa Tuberculosis and Health Association, it may well be thought of as the Bible for voluntary

health agencies in their relationships to the development of official community health services. It outlines the functions of a full-time health department and, with appropriate illustrative stories, what are the principles and minimum personnel on which a local health department should be set up as outlined in Haven Emerson's *Local Health Units for the Nation;* with special reference to the Iowa situation; the widespread professional and citizen interest in extending local health services; and finally, a bit of New York State experience. Published by and presumably available from Iowa State Tuberculosis and Health Association, 2124 Grand Avenue, Des Moines 12, Iowa.

"Recent Amendments of the U. S. Public Health Service Milk Code," published in the *Journal of Milk and Food Technology* for May–June, 1948, by A. W. Fuchs, discusses changes approved by the Milk and Food Sanitation Advisory Board, U. S. Public Health Service, to the 1939 edition of the *Milk Ordinance and Code* recommended by the Service. Reprints available from Mr. Fuchs, U. S. Public Health Service, Washington, D. C.

"Nation-wide Inventory of Sanitation Needs," Supplement 204 to the *Public Health Reports* is the report of the 1947 U. S. Public Health Service survey of nation-wide sanitation needs. This survey disclosed a need for water supply and sewage disposal facilities costing $7,834,581,000, including water supply systems for 5,710 communities now without central systems; improvements and extension to existing systems of 15,000 communities; attention to the water supplies of 27,000,000 rural inhabitants; complete sewerage systems for 9,100 communities; improvements to existing systems; and coverage of rural populations. In 8,300 communities better collection and disposal of garbage was found necessary. The survey also found that 36 per cent of the facilities to meet community needs are either ready for construction or in the planning stage. Superintendent of Documents, Washington, D. C., 15¢.

BOOKS AND REPORTS

All reviews are prepared on invitation. Unsolicited reviews cannot be accepted.

Medicine in the Post War World —The March of Medicine, 1947— *Number XII of The New York Academy of Medicine Lectures to the Laity. New York: Columbia University Press,* 1948. 106 pp. Price, $2.00.

In these six *Lectures to the Laity* sponsored by the New York Academy of Medicine, the task of providing factual information for the layman is accomplished through presentations which are simple and authoritative, yet neither patronizing nor pedantic. Intended primarily for laymen, they will be interesting and enjoyable to professional workers as well.

The post-war world referred to in the title offers Major General Kirk and Dr. Solomon a good vantage point from which to evaluate medicine's achievements in the past war, and it is apparent that medicine and psychiatry have gained information which will be most useful in adapting valuable techniques for civilian use in the hoped-for peaceful future.

Both Dr. Solomon's lecture on the atom in medicine and Dr. Dubos's discussion of the biotic agents stress the need for continuing scientific investigation to insure a greater usefulness of these agents in the study and control of disease. Dr. Haggard offers a brief and fascinating account of the life and work of Dorothea Dix, and Dr. Spitz provides evidence which emphasizes the great importance to the infant and growing child of the mother's love and affection.

The atom, the biotic agents and psychiatry have been dramatized during the past few years by the press, the radio, and movies to a degree not always consistent with the facts. It is hoped, therefore, that this informative and stimulating book will have wide circulation among the laity.

HENRY B. MAKOVER

Fundamentals of Human Reproduction—*By Edith L. Potter, M.D. New York: McGraw-Hill,* 1948. 231 pp. Price, $3.50.

This compact, dynamic book is divided into four sections. The section on background deals with early forms of animal life, general pattern of reproduction, factors responsible for body form and number of offspring. The second section (General Plan) covers sex organs and their function, development of the blastocyst and formation of the placenta and a survey of embryonic and fetal development. Thirteen chapters devoted to development of the various organs form the third part, and the fourth section is devoted to the infant.

The material is very readable and reflects the author's excellent performance as a lecturer. Use of simple analogies, colorful language and interesting comments regarding the rational bases of developmental changes help not only in making all development seem logical and understandable but easier to remember. Comparison of human developmental structures with those of other animals makes evolutionary changes seem more real. The illustrations and photographs are clear and forceful and add much to the clarity of the test. There are also a helpful list of visual aids and a bibliography.

Maternal and child health directors and public health nurses and all others interested in a clear, concise, and interesting text on human reproduction will find this a good addition to their libraries. MARION HOTOPP

Tifus Exanthematico—*By Dres. F. Fonseca and Fr. Wohlwill. Barcelona-Buenos Aires: Salvat Editores,* S. A., 1944. 212 pp.

The last war has of necessity stimulated a revival of interest and of work in the rickettsial field. Several studies have appeared in Spanish, stressing various aspects of the subject. Thus, Del Campo and Gallardo (Madrid, 1943) presented a work on the laboratory phase of typhus fever which surpasses in detail and in illustration anything as yet available in English. The present volume, however, is rather designed for the general medical reader than for the specialist. The authors achieve a balance among such aspects of typhus fever as the clinical picture, laboratory diagnosis, pathology, epidemiology, prophylaxis, and treatment. The sections on symptomatology and on pathology are perhaps the strongest. It is due to no fault of the authors that neither DDT in louse control, nor para-aminobenzoic acid in therapy receives any mention, since these significant developments had not yet been established at the time of writing of the volume. The illustrations have been well selected, and are generally informative. M. TAGER

Introduction to Human Physiology—*By William D. Zoethout, Ph.D., Professor Emeritus of Physiology in the Chicago College of Dental Surgery (Loyola University). St. Louis: Mosby,* 1948. 424 pp. Price, $4.00.

In this elementary treatise on human physiology or bodily function an attempt has been made to provide enough information in the basic sciences to make the work intelligible to a layman. In the first three chapters, fundamental concepts in the fields of physics, chemistry, tissue structure, and biological form and reproduction are covered. The remaining 22 chapters of the book deal briefly and in a simple manner with the main facts of biological function as they apply to man.

Chapter material is divided on the basis of the system or systems of body parts involved and their related functions. Most chapters are provided with an initial paragraph outlining the main points to be dealt with in the chapter. Each chapter presents, in a brief manner, the main facts relevant to the subject. The chapter ends with a series of questions covering the material presented. The book is rather more exhaustive than the usual elementary text on physiology or the related sciences. However, the material presented falls short of the minimum requirements of the medical student and therefore the use of this book is limited to high schools and a few very elementary university courses. The book is well produced and well illustrated (138 black and white and 4 colored illustrations). An excellent index is provided and is more generally adequate than is to be found in most advanced textbooks.

DONALD YOUNG SOLANDT

Pamphlets That Pull—*By Alexander L. Crosby. New York: National Publicity Council,* 1948. 32 pp. Price, $1.00.

A clumsy but more accurate title for this brochure would be "How to Make an Attractive Pamphlet That Has a Good Chance of Being Read." Nowhere is evidence developed to show that pamphlets prepared in accordance with the clear and excellent suggestions given will "pull" better than pamphlets which, prepared by some other methods, produce a less glamorous result. This

guide is based on the assumption long held by advertisers, health educators, and other pamphleteers—that a format which is pleasing to the eye and satisfies the silent ear will produce better results than a production which does not meet these qualifications.

For those who must prepare pamphlets and reports, however, this guide is perhaps one of the best that have ever been published. In its own writing and make-up it brilliantly illustrates the principles which it expounds. It is replete with simple instructions so clearly given that they will be immediately intelligible even to the scientist who, though well versed in his science, has never been trained how to impart his wisdom via the printed page to those who have the misfortune of not being trained in his particular curriculum.

Pamphlets That Pull is the ninth publication in the *How To Do It Series* published by the National Publicity Council. In the library of every health organization which must speak to the public from time to time it should take its place along side of all the other pamphlets in that series.

HOMER N. CALVER

Dental Health Teaching Outline—*By Verne D. Irwin, D.D.S., M.P.H., and Netta W. Wilson, M.A. Minnesota: Bruce Publishing Company,* 1948. Price, $1.00 per set, or No. 1, 20 cents, Nos. 2 and 3, 25 cents each, and No. 4, 30 cents.

Motivation of children to obtain dental care and establish good practices of mouth hygiene is the purpose of the four dental health teaching outlines which have been developed for use in the schools. Prepared as a series for use with children in the primary, intermediate, junior, and senior grades, they should be valuable to school teachers, public health dentists, dental hygienists, school nurses, and others.

The authors, with broad experience in the field of dental health education, and aware of the need for this phase of education in the schools, have prepared the outlines in a manner acceptable to present-day teaching methods. Recognizing that the integration of dental health education with the general school program is not a simple task for teachers whose background of dental education is somewhat limited, they have carefully prepared the text to include such dental and related information as is necessary and essential for instruction of children at the various grade levels. Also, they have demonstrated in a very practical manner the ways in which this information may be used as a regular lesson, or correlated with other activities of the classroom.

Each outline includes a recommended reading list for both teachers and pupils, and a list of films and other visual aids, together with the costs and the sources from which they may be obtained. The lists add greatly to the usefulness of this series of dental health teaching outlines which public health workers may well recommend.

MARGARET H. JEFFREYS

Veterinary Helminthology and Entomology—*By H. O. Mönnig. (3rd ed.) Baltimore: Williams & Wilkins,* 1947. 427 pp. Price, $9.00.

Dr. H. O. Mönnig has increased his contributions to veterinary medicine and public health in the third edition. It has been ten years since the second edition appeared and Dr. Mönnig has brought his book up-to-date and added numerous plates of eggs of helminths of the various domestic animals and birds.

The book is written primarily for veterinary students and practitioners but will have considerable value for public health veterinarians, laboratory workers, and epidemiologists. The host parasite list on pages 405 and 415 will be of real value to public health workers.

Dr. Mönnig has confined his text to

the more common parasites of domestic animals and some wild animals. The *International Rules of Zoölogical Nomenclature* are followed throughout. The student and other interested persons will find a good general discussion and definition of the relation of parasitism and other forms of life, pathogenicity and pathogenic effects, resistance and immunity, and epizoötiology.

A concise chapter on how to prepare specimens for clinical diagnosis will be of value to veterinary practitioners, public health veterinarians, and laboratory workers. Attention is given to the diagnosis of external parasites and those found in body fluids and excretions.

The most important content of the book is given over to the discussion of parasitic infections of domestic animals. The most attractive feature of the discussion of the parasites is the manner in which they are presented in the text. The author has followed a definite outline which is brief and readable. The morphology is briefly discussed, followed by the life cycle, pathogenicity, symptoms, diagnosis, post-mortem findings, treatment, and prophylaxis. The only shortcoming of this discussion is the lack of further details on treatment and prophylaxis. Considerable research work in treatment has been going on during the war and post-war years which has not been given adequate attention. The same may be said for prophylaxis where the discussion of insecticides is very brief. The greatest value of this book is its concise treatment of morphology, pathogenicity, symptoms, and diagnosis. For the advanced student there are many more valuable publications.

JAMES H. STEELE

The Issue of Compulsory Health Insurance—*By George Bachman and Lewis Meriam. Washington, D. C.: Brookings Institution,* 1948. 271 pp. Price, $4.00.

The most charitable statement that can be made about this report—which was supposed to evaluate compulsory health insurance versus federal grants-in-aid to the states for the medical care of the indigent—is that it was evidently prepared in some haste. It abounds in irrelevant material, questions raised but left unanswered, contradictions, and repetitions. The authors apparently do not understand the insurance principle, for they imply throughout that it is unjust for healthy persons to participate in a pool with the "bad risks" who are ill.

Haste, however, cannot excuse violation of the fundamental rules of scholarship by the almost complete lack of relevance of the factual material to the main issue and the opinions expressed about it. Conclusions spring fully clad from the authors' minds like Athene from the brow of Zeus. The only clue to their origin is Mr. Meriam's disapproving personal attitude toward social insurance, set forth at length in his *Relief and Social Security* (Brookings, 1946).

Regarding neither care for the needy nor insurance is any attempt made to analyze the wealth of experience available from programs of both types here and abroad. Because they ignore (or are ignorant of) this experience, the authors naively disregard the fact that most of the administrative problems they attribute to national compulsory health insurance—and which, in their opinion, make it undesirable—are common to all medical care programs, voluntary or governmental, national or local, including the ones they approve. In the absence of supporting factual material, the dogmatic conclusions reached are largely meaningless.

Most pages in the report are devoted not to the stated issues, but to a purported review of our health needs, resources, and expenditures. Mortality statistics are discussed at length, although admitted by the authors to be a poor

index of medical need. Rural dwellers, Negroes, the aged, widowed, and disabled are identified as undersupplied with medical care, but their problems are dismissed as basically social and economic—hence their health needs can apparently be ignored. Throughout runs the theme that if people were prudent and really wanted medical care, most could afford it.

The superficiality of this report and the methodology employed does not reflect credit upon either its authors or the Brookings Institution. In fairness, it should be added that the section on supply of personnel and facilities, although scarcely related by the authors to the main issues, is in general a scholarly presentation.

KATHARINE G. CLARK AND
DEAN A. CLARK

Research and Regional Welfare—*Edited by Robert E. Coker, with a Foreword by Louis R. Wilson. Chapel Hill: University of North Carolina Press,* 1946. 229 pp. Price, $3.00.

The University of North Carolina is perhaps the father of what is now generally known as regionalism. As a part of its sesquicentennial celebration in 1945 it held a 3 day conference on research and regional welfare, the papers of which have been published.

In 16 papers by as many authors the contributions of research to the well-being of the South are explored. They add up to interesting and provocative reading. The Foreword recognizes the responsibility of the University, by virtue of its public support, to prosecute "research not only for the discovery of new knowledge, but also for the advancement of the material, intellectual, and spiritual welfare of the public which it serves."

The chapter on Nutrition and Public Health contains 2 papers, Research in Nutrition: Importance to the Public Health, by Russell M. Wilder, M.D., Division of Medicine, Mayo Clinic; and Medical Research: The Foundation for Future Progress in Health and Public Welfare in the South, by James Steven Simmons, M.D., Director of the Harvard University School of Public Health.

MARTHA LUGINBUHL

Interesting and Useful Medical Statistics—*Edited by William H. Kupper, M.D. Dubuque, Iowa: Wm. C. Brown,* 1948. 528 pp. Price, $6.50.

This volume is a collection of approximately 1,000 tables taken from papers published in medical journals. The tables are presented by subject such as absenteeism, accidents, age groups, alcoholism, allergy, etc. The *Journal of the American Medical Association* is the source of more than half of the tables. Other journals drawn on heavily are *Public Health Reports, Metropolitan Statistical Bulletin,* and *New England Medical Journal.*

The presentation of such tables without comments regarding the source of the data raises a question of the purpose of the text of the original paper. Usually the text of paper includes a description of the program, study or material, and the interpretation of the data collected and presented in the tables.

Also, review of the tables brings forth questions regarding the characteristics of good tables. The title of a table should acquaint the reader with the data being presented, giving the source of the data, when, and where the data were gathered. These tables indicate that scientists would benefit by study of the book by Walker and Durost * entitled *Statistical Tables, Their Structure and Use.*

Some of the tables in the volume are excellent and are readily understood because of completeness of titles and be-

* Walker, H. M., and Durost, W. N. *Statistical Tables, Their Structure and Use.* New York: Teachers College, Columbia University, 1936.

cause the data are for the United States or for areas for which the method of collection of data is well known. Some of the tables are for limited periods of time, such as case reports for a few weeks, and others are for small experiences. The tables in this collection are selected ones and cannot be said to give typical or representative data on a given subject.

Because of the lack of description of the material and the dangers of improper use and incorrect interpretation, this collection of tables is not recommended for use by scientists.

RUTH R. PUFFER

Health in Your Daily Living—*By Josephine L. Rathbone, Francis L. Bacon, and Charles H. Keene, M.D. Boston: Houghton Mifflin,* 1948. 442 pp. Price, $2.60.

Health in Your Daily Living has from all apparent evidences been written for young people in high schools. It is an interesting and attractive textbook, meeting most of the requirements demanded by teachers who are making selections of health textbooks. Such requirements which are here met include accurate, reliable content, interesting readable script, with a selection of topics of interest to the intended age group, and illustrations and graphs which engage the interest of the reader as well as clinch points made in the text. The glossary is complete and the teaching aids are excellent. Pre-tests of materials to be presented might have been added which would assist the teachers in selecting points for emphasis in class.

Since there is no mention of a supplement in which the reproductive system and its function have been mentioned, it is safe to assume that this important subject again has been omitted. The reviewer hopes that some day an author and a publishing company will have the courage to include in a text this all important problem, giving it its rightful place among the other topics thought to be vital to the welfare of our high school youth.

Educators should carefully consider this excellent text when selecting health textbooks. A. L. BEAGHLER

The American Year Book—*Edited by William M. Schuyler, with numerous contributors. New York: Thomas Nelson,* 1948. 1125 pp. Price, $15.00.

"Contemporary thinking on epochal events" in the United States of America in the year 1947 is presented in this 33rd annual issue of the *American Year Book*. These events are within the fields of government, economics and business, social conditions, science, and the humanities.

Here we have epitomes of high lights, developments, and factual data much of which provide most useful reference material for public health workers. It is not a simple task to review an encyclopedia, but the following condensed notes are suggestive of the breadth of content.

Seventy-eight additional cities adopted the council-manager form of government. Expenditures for welfare services increased in spite of high employment. Cities are consolidating departments. James F. Byrnes resigned as U. S. Secretary of State on January 8. The Massachusetts legislature rejected an act making the Civil Service law applicable to county employees. The United States consumes 15 times as much oil per capita as Great Britain. The largest single sunspot ever recorded appeared in March, 1947. Motor busses are supplanting street cars. "The Winslow Boy," following a huge success in London, moves to New York. There are 6,300,000 students in the secondary schools of the United States. Six states now have a $2,400 minimum salary for teachers. The travel literature for Europe is still sparse. A new disease entity is given the name "rickettsialpox."

A National Conference on Local Health Units was held at Princeton University in September. Relationships between Blue Cross organizations and hospitals have been strained for some time. The position of streptomycin in the therapy of infections was clarified during the year.

Forty-six national learned societies have participated in the production of this useful encyclopedia. A 36 page index, covering subject matter and authors' names, permits one to "get at" the material readily.

Dr. William R. Willard, Assistant Professor of Yale University, School of Medicine, is author of the 8 page section on Public Health, and Dr. Halbert L. Dunn, Chief of the National Office of Vital Statistics, provides 10 pages on the latest available vital statistics.

While sunspots and leading motion picture productions may not be related to public health, the trends in government, business and science are unquestionably matters of prime importance to the expansion of public health programs.

GEORGE T. PALMER

Water Purification Control — *By Edward S. Hopkins. (3rd ed.) Baltimore: Williams & Wilkins,* 1948. 289 pp. Price, $4.00.

The introduction of this book is noteworthy. It gives a historical outline of water treatment, with Louisville experiments credited with the basis for scientific control. The author has missed no detail in water treatment practice; all kinds of coagulants; the when and how to use them; pH control is clearly stated; the filtration chapter is complete; collecting systems are well described, but relative advantages are not pointed out; disinfection by chlorine and caustic alkalinity are given space relative to their importance. The disadvantages of ozone and R.U.V. in carrying residuals into the system should have been noted. Control of microorganisms is brief but essentials are given and methods in use. Corrosion control in treated and natural waters is well described. Chapters on softening hit high spots of the problems involved, the processes, and equipment. The book gives nothing on bacteriological tests other than a chapter, "Plant Control," covering the U. S. Public Health Service drinking water standards, the value of chemical tests, record keeping, plant maintenance, and cross-connections.

Each chapter is well annotated for one who wishes to delve more deeply into the various subjects treated. An excellent book for the large as well as the small plant operator, and one from which the designing engineer could profit. It is a well written book which covers the field thoroughly.

THOMAS R. LATHROP

Rural Health and Medical Care— *By Frederick D. Mott, M.D., and Milton I. Roemer, M.D., M.P.H. New York: McGraw-Hill,* 1948. 610 pp. Price, $6.50.

A valuable pioneer study of a most important problem.

Comparative statistics for urban and rural populations, cited in early chapters, seem to the reviewer of doubtful value; but the National Youth Administration studies, later quoted, demonstrate beyond question the presence of a relatively high proportion of specific physical defects (such as carious teeth, diseased tonsils and underweight) in rural youth. Even on the assumption that the health problems of rural and urban populations are not widely different, there is a shocking lack of medical care in the farm group. The authors cite figures which show 876 persons per physician in the country as a whole, while the figure for 8 states which are over 70 per cent rural is 1,428; and for the counties in these states which have no urban center, the ratio rises to 2,256

persons per physician. In these purely rural areas, nearly half the physicians are over 56 years of age.

Hospital beds average 3.5 per thousand population for the country as a whole; and 2.2 for the 8 predominantly rural states. Similar discrepancies appear in regard to dental personnel and nursing personnel; but it is noted that undertakers are quite evenly distributed in different areas.

The reasons for these deficiencies are partly geographical and organizational, but mainly economic. The per capita expenditure of the average urban family for medical care in 1941 was $26.76; of the average farm family, $14.37.

In the last third of this volume, Mott and Roemer discuss possible remedies for the situation. They discuss the Farm Security Administration program of medical care for rural areas which reached its peak in 1942 (largely under the leadership of the senior author); and show how this program succeeded in bringing needed medical care to tens of thousands of farm families; and how its value was limited by the relatively small and unfavorably selected group of families served, the small financial contributions which could be provided by low income farmers, and the high cost of a fee-for-service program. Later experiments with a better organized program (not limited to low income families and with additional subsidy) in 6 southern and western counties gave much more promising results. Experience with various voluntary insurance plans is then reviewed which indicates —as might have been expected—that such plans cannot reach the lowest income groups and inevitably tend to increase costs by selection of families and groups who are poor health risks.

The authors point out the importance of general social and economic measures which will increase the earning power of the farm population, the need for rural health and hospital facilities, and for basic public health services. They conclude, however, that the fundamental approach to a solution of the problem must be the establishment of a national system of compulsory health insurance. Such a system would provide needed care for all and apportion the cost to family income, "the only effective way to apply the time-honored sliding scale principle." The sole alternative possibility is a medical care program, like that proposed in other countries, financed directly from tax funds, which the authors consider too radical a step for us. Their figures show clearly that, while a universal contributory program could be financed by such prosperous states as California and New York, it would be completely out of the reach of the rural states which need it most.

Mott and Roemer conclude that "In all nations the economic problems of medical care have been faced and the development of social insurance has become almost historically inevitable in the path toward their solution. With this central economic measure, other steps toward a total health program will be on firm ground. The goal of the plain people on the farms and in the villages of America will cease to be a vision and will be attained. When the steps clearly within our power are taken, we can be certain that the gap between the technology of modern medicine and its social application will be closed."

C.-E. A. WINSLOW

Physiology of Exercise—*By Laurence E. Morehouse, Ph.D., and Augustus T. Miller, Ph.D. St. Louis: Mosby,* 1948. 353 pp. Price, $4.75.

This is a useful monograph upon a subject which advanced so much just before and during the war as to render previous summaries in review journals and in book form out of date.

To a large degree much of the experimental work recounted was done in the Fatigue Laboratory at Harvard. One

is not surprised, therefore, that the idea that motivates the book consists in an effort to describe the functional powers of man by centering upon the way in which he meets the requirements of exhausting exercise, not only when untrained and trained, but also under trying environments of heat and cold.

The authors are interested in describing the reactions of the body to hard work on the treadmill or under standardized laboratory conditions. The best feature of the book is the readable and well documented manner in which these descriptions of performance are given. No one can expect that, in a short monograph, all aspects of an experience so broadly affective as hard physical work can be treated with equal success. A monograph should convey the interests and conclusions of men who have worked in a subject. It is a short cut to information, not a compilation of data and references which weight the reader with the necessity to undertake wide research in literature, listed comprehensively, but not with critical insight.

The authors have fulfilled this requirement. Exercise means muscular work and, systematically, the structure, physiology, and biochemistry of muscle are described, and then the adaptations of circulation and breathing, which must accompany muscular work. Later chapters deal with "Skill," "Endurance," "Fatigue," "Training," "Environmental Temperatures"—all the considerations involved in physical performance. Each of the 30 short chapters is followed by a brief and well selected bibliography.

The book should be useful to all students who have had a year or two of training in physiology and biochemistry. Applied science is usually considered a simple version of basic matters. This is a great mistake. Those who can apply scientific methods most successfully, think in and talk the language of science without effort. To the reasonably prepared mind in colleges and professional schools, this small book will prove a useful resource. CECIL K. DRINKER

Life Insurance Medical Research Fund—Third Annual Report, 1947. *New York: Life Insurance Medical Research Fund,* 1948. 95 pp.

Public health workers ought to know about the Life Insurance Medical Research Fund which was organized in 1945 by a group of United States and Canada life insurance companies representing most of the business done in North America. The resources of the Fund are derived from contributions made by company members in proportion to the volume of their business. The purpose is the support of medical research with the ultimate objective of increasing life expectancy, and the resources of the Fund are now devoted to the support of fundamental research on problems of the heart and blood vessels.

A board of outstanding physicians makes up the Advisory Council and guides the grants which in 1947 included nearly 100 research programs and about 35 fellowships. More than $580,000 was awarded in grants and fellowships during 1947, bringing the total since organization of the Fund to more than $1,250,000.

A review of the projects themselves is rewarding. Among the list are some classified under the heading "The Prevention of Disease." These include metabolic production of arteriosclerosis; streptococcus, rheumatic fever, and nephritis; the roles of diets and hormones; protein intake and hypertension; streptococcal infections; streptococcus growth products, and other subjects.

The Life Insurance Medical Research Fund represents an important new approach to medical research. It is to be hoped that the federal program of

grants-in-aid for medical research will supplement and not replace ventures of this kind, as has been recommended in the Steelman Report.

REGINALD M. ATWATER

400 Years of a Doctor's Life—*By George Rosen, M.D., and Beate Caspari-Rosen, M.D. New York: Henry Schuman,* 1947. 429 pp. Price, $5.00.

400 Years of a Doctor's Life is not a history of medicine, but, as the authors point out, an anthology of biographical material about and by representative men active in the field of medicine from the 16th century to the present time. It is not a history book but rather a story book, but unlike most stories with a limited number of characters, it contains 162.

It is, for this reason, excellent bedside table reading, for it lends itself well to the frequently interrupted type of literary browsing.

The short, interesting, pertinent, and concise statement introducing each new biographical vista into the life of the composite 400 year old doctor is a good setting for each component part.

The reviewer is sure that this anthology will stimulate many to read more fully in the sources from which these delightful samples were taken.

A. L. BURGDORF

Citizen Participation in Government—A Study of County Welfare Boards—*By Helen E. Martz, Ph.D., Introduction by R. Clyde White. Washington, D. C.: Public Affairs Press,* 1948. 63 pp. Price, $1.00.

Public health workers are quite aware of today's high interest in gaining citizen participation in health affairs. In this study they will find outlined some of the weaknesses and the strengths of such participation as discovered in the welfare field. It may serve only to deepen the convictions of some that lay involvement in activities that are essentially professional prerogatives is at the least a vexatious irritation. However, more objective persons will learn from the study how they can effectively utilize this potent source of support.

While much has been written about citizen participation in the nonofficial health field, there has been relatively little attention given to it in relation to the official health agency. Because there is an apparent trend toward more lay appointments on boards of health, the subject of this study is of increasing significance to health officials. It may be remarked parenthetically that some professional members of boards of health may be, in matters of public health administration, in much the same position as the lay citizen.

The 63 page pamphlet is a summary of a detailed study, and as such will appeal to the busy professional who has little time to digest minutiae. A 10 page summary and conclusions section is well done. Many will find the rather extensive bibliography of value. The study warrants a better print job than it has received.

JOHN W. FERREE

Victorian Order of Nurses for Canada — Fiftieth Anniversary — *By John Murray Gibbon. Ottawa: Victorian Order for Nurses for Canada,* 1947. 124 pp. 32 illus. Price, $2.00.

This book is a factual story of the services provided by the Victorian Order of Nurses in Canada during the 50 years since the inception of the Order. The book is well illustrated with pictures dating back almost to the beginning of the Order. It tells the story of hardships encountered by nurses beyond the frontiers of civilization in Canada and shows their ingeniousness in carrying out many arduous tasks in spite of almost insurmountable obstacles.

The book is rather difficult to read, most of the material being quotations from letters and other documents on file at the central office.

It is apparent that the original activities of the nurses, which were mostly in communities where no other form of medical service was available, have now developed into the accepted pattern of bedside nursing, namely a nursing service in communities where medical service is available and only under the supervision of a qualified medical man. One questions whether or not the service now being provided by the Order is the type of service that was originally visualized by the founders of this excellent nursing service. F. W. JACKSON

Handbook of Communicable Diseases for the Use of Medical Officers of Schools—*By Medical Officers of Schools Association. (11th ed.) London: J. and A. Churchill, Ltd.*, 1948. 71 pp. Price, 5 s.

It is interesting to compare the British procedures with our own regulations for communicable disease control. This eleventh edition which had its origin 62 years ago in a code of rules is published by the Medical Officers of Schools Association, which has no counterpart in America. Since the last edition in 1940 they have adopted the format of the booklet *The Control of Communicable Diseases* by the American Public Health Association which had involved consultation with the medical staff of the British Ministry of Health, and they have added a new item "Return to School." The statements are the work of a committee of 7 which met on 10 occasions. The preface to the first edition is also included. This was based on "an elaborate series of questions" and revealed "curiously divergent" procedures when dealing with the same conditions of disease. It would seem that we might profit in this country today from such an inquiry as was made by the British Medical Officers of Schools Association in 1884.

Naturally the differences from policy in the United States are most notable when compared with our more recent changes in rules which have recently been made less restrictive and less expensive than formerly, and where our knowledge is limited. For example, the code calls for:

Chicken pox—isolation and exclusion of patients from school until every primary scab has fallen off and the skin lesions have healed. Return to school at the end of isolation. No mention is made of contacts.

Measles—the period of isolation extends until catarrhal symptoms cease and the minimum period before return to school seems to be 10 days from the appearance of the rash, with no mention of contacts.

Pertussis—in the discussion of the period of communicability we find infectivity rapidly diminishes at the end of the catarrhal stage and freedom from infection may be demonstrated as early as the 21st day after onset, and yet isolation from susceptible children and exclusion from school is recommended for 4 weeks from onset, or until proved free from infection by bacteriological examination. Further restriction is recommended for those exposed who develop a cough, and under epidemic conditions non-immunes are excluded from school for 14 days after their last exposure to a recognized case.

Ringworm of the scalp—under the heading "return to school" we find the ultimate in non-committal policy, i.e., "If isolation has been considered necessary, as soon as it is considered unnecessary."

Scarlet fever is a notifiable disease but not septic sore throat nor streptococcal tonsillitis. The recommendation "return to school" does not specify whether it applies only to the erythrogenic conditions or not, but does indicate that there must be no sore throat, discharge from the ear or nose, suppurating or recently enlarged glands, and a negative swab is usually obtained.

No mention is made of contacts except the recommendation under "General Measures"—"Daily examination of throats and temperatures. Swabbing both nose and throat where doubt exists."

Apparently these general recommendations from the British Medical Officers of Schools are in some ways more strict than our more recent proposals, which have been designed to avoid restrictive measures that have not been effective, and they are less restrictive in other ways than most of the policies attempted by well organized health departments in the United States. This handbook, however, expects the medical officer to decide whether a person will be isolated when "suspected of having or incubating an infectious disease," and "the school doctor should possess undivided responsibility in dealing with the circumstances" of infection and its control and in dealing with the sick.

HAROLD H. MITCHELL

Sex Variants: A Study of Homosexual Patterns — *By George W. Henry, M.D. New York: Hoeber,* 1948. 1000 pp. Price, $8.00.

This single volume edition of a two volume study originally published in 1941 reports an investigation undertaken at the request of the Committee for the Study of Sex Variants. Sixty detailed case histories have been selected from among 200 individuals studied, representing both sexes and including bisexual, homosexual, and narcissistic cases of a great variety.

Public health workers are aware of the confused approach to cases of homosexuality by the public and by the medical and legal professions. This book will be significant to them because it brings together a larger number of cases in an exhaustive way than would ever be encountered in ordinary practice. The reporting is thoroughly objective and includes studies of family backgrounds, heredity, and childhood experience as well as of adult behavior. Although this volume does not emphasize methods of handling homosexual cases, it does point up the necessity of sound procedure to avoid the stupidly ineffective measures so often employed. It throws light on problems of child guidance which if well handled can prevent the fixing of variant sex patterns that are socially undesirable. The author is to be commended for the most thorough study of its kind. The volume represents the best present source for orientation of physicians, nurses, social workers, and lawyers. There ought now to be a study of the most effective handling of homosexual cases.

REGINALD M. ATWATER

A SELECTED PUBLIC HEALTH BIBLIOGRAPHY WITH ANNOTATIONS

RAYMOND S. PATTERSON, PH.D.

News—Barring catastrophe, it is likely that the 1948 death rate will be as low as, or slightly lower than, the 1947 rate which was the lowest previous record.

ANON. 1948 May Set New Low Mortality Record. Stat. Bull. (Met. Life Ins. Co.) 29, 7:3 (July), 1948.

First Fruits—Continuing decline in mortality from cancer among women is the most encouraging aspect of that still grim picture.

ANON. Improvement in Cancer Mortality among Women. Stat. Bull. (Met. Life Ins. Co.) 29, 8:2 (Aug.), 1948.

Nothing Nutritionally Significant Is Lost—Two engineers say that health officers are justified in recommending pasteurization of all milk. Though this will come as no surprise to you, perhaps you will want the reference for your files.

ANDREWS, J., AND FUCHS, A. W. Pasteurization and Its Relation to Health. J.A.M.A. 138, 2:128 (Sept. 11), 1948.

Existing Breast-Feeding Patterns—Here's a statistic you may want to use. In a nation-wide survey of lying-in hospitals it was found that a third of the infants were on bottle feeding at time of discharge from the hospital. There were striking regional differences. In the Northeast 60 per cent were weaned to the bottle, whereas only 18 per cent were so weaned in the South.

BAIN, K. The Incidence of Breast Feeding in Hospitals in the United States. Pediatrics, 2. 3:313 (Sept.), 1948.

Some Do—We know a lot more about school children's health; we have improved means of maintaining their health; now all that remains is for us to do something about it.

BAUMGARTNER, L. The New Look in Health for Children of School Age. Pub. Health Nurs. 40, 9:444 (Sept.), 1948.

Human Understanding Needed—My uninformed guess is that this study (of the sort of help new parents want over and above what they are likely to get from existing lying-in hospital services) is a revealing and suggestive document. It may be "old-stuff" to pediatricians and nurses steeped in infant hygiene lore, but I doubt it.

CLAY, A. S. Guidance in Maternal and Infant Care Two Months before and after the Birth of the First-Born. Pediatrics. 2, 2:200 (Aug.), 1948.

Infant's Rights—This is my idea of a swell paper. Spades are called you've-guessed-it. Chips fall you-know-where. There's red meat in every paragraph. Mostly it's about better rural maternity services. The means are at hand—if we have the vision.

DAVIS, M. E. Trends in Maternal Health. Pub. Health Nurs. 40, 9:450 (Sept.), 1948.

Two-Thirds Have Done Something—Half a century has passed since the first state law to solve the cancer problem was enacted (in New York). The legislative flood that has poured over the dam in the intervening 50 years is reviewed. Surprisingly enough, more laws are needed.

DEIBERT, A. V. A Half Century of State Cancer Legislation. Pub. Health Rep. 63, 35:1128 (Aug. 27), 1948.

High Aims: High Attainments—We know a health council can integrate the planning of all health organizations, thus preventing overlapping. It can survey needs, and establish a well balanced community program based on revealed needs, through stimulated public participation. So says this writer.

FERREE, J. W. Health Councils and Their Potentialities. Pub. Health Nurs. 40, 9:461 (Sept.), 1948.

Homely Simile—". . . even during its infancy, it is already evident that health education will reach the stature of a giant. When a child shows such rapid growth, its parents must be resigned to buy it new sets of clothes more frequently than they would like to."

GILBERT, J. Public Health Education in Local Health Departments. Canad. Pub. Health J. 39, 8:325 (Aug.), 1948.

Dangerous Thoughts—A Britisher's thesis: if we want to prevent we must treat, and to treat effectively we must provide for early diagnosis. He answers nine questions about what a productive health service should be like. If you are intrigued by a viewpoint as wide of ours as the Atlantic, you'll hunt out this dissertation.

HASTINGS, S. A National Health Service. M. Officer. 80, 11:111 (Sept. 11), 1948.

Definitive Is the Term for It—This is the sort of review article that does everyone good. We should have more of them. The man who knows best explains just where streptomycin stands among the five categories of remedies for tuberculosis.

HINSHAW, H. C. Antibacterial Drug Therapy in TB. Bulletin (N. T. A.) 34, 8:119 (Sept.), 1948.

No High-Flown Theory Here—Perplexing problems of policy that plague a health officer during a polio epidemic are pondered o'er productively.

KITCHING, J. S. The Health Officer and Poliomyelitis. Canad. Pub. Health J. 39, 8:310 (Aug.), 1948.

Since the "Year of Revolutions"—More historical references for you when you want them. This covers the hundred years that have passed since the first Public Health Act which caused public health to become a national responsibility (in Great Britain).

MCNALTY, A. S. A Century of Public Health. J. Roy. Inst. Pub. Health & Hyg. 11, 8:257 (Aug.), 1948.

Minerals and Vitamin D—Progressive improvement in the condition of the teeth of 5 year olds attending London schools is believed by the reporters to be due to the calcifying qualities of better diet over the whole antenatal and postnatal life of the children.

MELLANBY, M. AND MELLANBY, H. The Reduction in Dental Caries in 5-year-old London School Children (1929–47). Brit. M. J. 4573: 409 (Aug. 28), 1948.

BOOKS RECEIVED

Listing in this column acknowledges the receipt of books and our appreciation to the senders. Space and the interests of readers will permit review of some, but not all, of the books listed.

AMERICAN NURSES' ASSOCIATION PUBLIC RELATIONS WORKSHOP. Edward L. Bernays. New York: ANA, 1948. 32 pp. 39 illus. Price, $2.50.

BABY BOOK, PREPARED BY NEW YORK STATE DEPARTMENT OF HEALTH, Bureau of Maternal and Child Health. Albany, New York: Department of Health, 1948. 48 pp.

THE COLLEGE CURRICULUM IN HOSPITAL ADMINISTRATION. A Final Report by the Joint Commission on Education. Chicago: Physicians' Record, 1948. 107 pp. Price, $2.00.

EMERGENCY MATERNITY AND INFANT CARE. A Study of Administrative Experience. Nathan Sinai, Dr.P.H., and Odin W. Anderson, Ph.D. Ann Arbor, Mich.: University of Michigan, School of Public Health, 1948. 181 pp.

ESSENTIALS OF PATHOLOGY. Lawrence W. Smith, M.D., F.C.A.P., and Edwin S. Gault, M.D., F.C.A.P. (3rd ed.). Philadelphia: Blakiston, 1948. 764 pp. Price, $12.00.

FRONTIER DOCTOR. Samuel J. Crumbine, M.D. Philadelphia: Dorrance, 1948. 284 pp. Price, $3.00.

HANDBOOK FOR ADVISERS TO STUDENTS PLANNING TO ENTER MEDICINE. Dewey B. Stuit and Raymond J. Schlicher. Chicago: Association of American Medical Colleges. 34 pp. Price, $.50.

A HEALTH PROGRAM FOR COLLEGES. Report of Third National Conference on Health in Colleges. New York: National Tuberculosis Association, 1948. 152 pp. Price, $2.00.

HOSPITAL TRENDS AND DEVELOPMENTS 1940-1946. Edited by Arthur C. Bachmeyer, M.D., and Gerhard Hartman, Ph.D. New York: Commonwealth Fund, 1948. 819 pp. Price, $5.50.

THE LEPTOSPIROSES. P. H. van Thiel. Leiden, Netherlands: Universitaire Pers Leiden, 1948. 231 pp. Price, f.16.50.

LETTERS TO JANE. Gladys Denny Shultz. Philadelphia: J. B. Lippincott, 1948. 224 pp. Price, $2.75.

LET'S TELL THE TRUTH ABOUT SEX. Howard Whitman. New York: Pellegrini & Cudahy, Inc., 1948. 242 pp. Price, $2.50.

MEDICAL AND HOSPITAL SERVICES PROVIDED UNDER PREPAYMENT ARRANGEMENTS. Trinity Hospital, Little Rock, Arkansas 1941-1942. Margaret C. Klem, Helen Hollingsworth and Zelma A. Miser. Washington, D. C. Gov. Ptg. Office, 1948. 259 pp. Price, $1.00.

THE NATION'S HEALTH. A Ten Year Program.

A Report to the President by Oscar R. Ewing. Washington, D. C. U. S. Gov. Ptg. Office, 1948. 186 pp. Price, $1.00.

NURSING FOR THE FUTURE. Esther Lucille Brown, Ph.D. New York: Russell Sage Foundation, 1948. 198 pp. Price, $2.00.

ON THE DEVELOPMENT OF TUMORS IN VARIOUS TISSUES IN MICE. Ragna Rask-Nielsen. Copenhagen, Denmark: Einar Munksgaard, 1948. 144 pp.

THE OUTLOOK FOR WOMEN:

In Chemistry	65 pp.	Price, $.20
In the Biological Sciences	87 pp.	.25
In Mathematics and Statistics	21 pp.	.10
In Physics and Astronomy	31 pp.	.15

Washington, D. C.: Gov. Ptg. Office, 1948.

PLANNING YOUR EXHIBIT. Janet Lane and Beatrice K. Tolleris. New York: National Publicity Council, 1948. 28 pp. Price, $1.00.

POLIO AND ITS PROBLEMS. Roland H. Berg. Philadelphia: Lippincott, 1948. 174 pp. Price, $3.00.

A PRACTICAL MANUAL OF DISEASES OF THE CHEST. Maurice Davidson, M.A., M. D. Oxon, F.R.C.P. Lond. (3rd ed.) New York: Oxford University Press, 1948. 670 pp. Price, $16.50.

THE QUEST FOR PURE WATER. M. N. Baker. New York: American Water Works Association, 1948. 527 pp. Price, $5.00.

SOME BRITISH PIONEERS OF SOCIAL MEDICINE. Major Greenwood, D.Sc., F.R.C.P., F.R.S. New York: Oxford University Press, 1948. 118 pp. Price, $4.00.

SYMPOSIA ON NUTRITION. Volume I Nutritional Anemia. Edited by Arthur Lejwa. Cincinnati, Ohio: Robert Gould Research Foundation, Inc. October 16–18, 1947. 194 pp.

THERAPY THROUGH INTERVIEW. Stanley G. Law, M.D. New York: McGraw-Hill, 1948. 313 pp. Price, $4.50.

TYPING OF SALMONELLA TYPHI MURIUM BY MEANS OF BACTERIOPHAGE. Kaare Lilleengen. Copenhagen, Denmark: Einar Munksgaard, 1948. 125 pp.

UROLOGY FOR NURSES. Oswald Swinney Lowsley, M.D., F.A.C.S., and Thomas Joseph Kirwin, M.D., F.A.C.S. (2nd ed.) Philadelphia: Lippincott, 1948. 687 pp. Price, $6.00.

VIRAL AND RICKETTSIAL INFECTIONS OF MAN. Edited by Thomas M. Rivers, M.D. Philadelphia: Lippincott, 1948. 549 pp. Price, $5.00.

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Public Health in Foreign Periodicals

GEORGE ROSEN, M.D., PH.D.

HEALTH conditions in the Balkans have long been deplorable, and particularly so in Rumania. Underlying and interrelated with these conditions are a welter of social and economic problems, chief among them rural poverty and ignorance. Such knowledge of health and disease among the Rumanian people as was available prior to World War II was at best spotty and likely to be misleading when the whole population of the country was considered. With the cessation of hostilities it was realized that the time had come to undertake a comprehensive investigation of the social biology of Rumania. Late in 1946, therefore, at various sessions of the Rumanian Academy of Medicine, G. Banu, professor of social medicine at Bucharest, presented a plan for such a project, as well as the results of a number of preliminary studies that he and his coworkers had already undertaken.

A PLAN FOR STUDYING THE BIOLOGY OF THE RUMANIAN PEOPLE[1]

Banu begins by emphasizing that the biology of the Rumanian people is still very inadequately known. Statistical data from the various regions of the country are as yet lamentably incomplete. From the figures that are available, it would appear that the problems

of infant mortality and the protection of childhood are exceedingly urgent and demand immediate attention. Furthermore, the incidence of such communicable and social diseases as tuberculosis, syphilis, malaria, pellagra, cancer, endemic goiter, trachoma, and alcoholism is at a much higher level than in the countries of Western Europe.

In dealing with these problems, insists Banu, regional differences must be taken into account. Any health plan that may be devised must be flexible enough to deal with special regional matters. In general, however, particular emphasis should be placed on demography and eugenics, child welfare, control of communicable diseases, and improvement of living standards (nutrition, housing, education). Finally, he recommends that the Rumanian Institutes of Hygiene should immediately undertake to study problems of social pathology, health education, and sanitary engineering. In these efforts they should be supported by the Academy of Medicine. These studies could then serve as a firm foundation for a national public health organization.

REGIONAL CHARACTERISTICS OF INFANT MORTALITY IN RUMANIA [2]

Rumania is characterized by a high infant mortality. In 1927, the infant mortality rate was 17.8 (per 100 live births) in Rumania, as compared with 8 in Belgium and 3.8 for Holland. Infant mortality is higher in rural areas than in towns. In 1940, it was 18.5 in the former and 17.2 in the latter.

Banu attributes the high infant mortality to four causes. Most important in this connection are congenital abnormalities and debility. Thus, infants dying during the first month account for one-half the total deaths reported in the first year of life. Premature birth and obstetrical mishaps also play a part here. Second in significance are the medical causes of infant mortality; that is, respiratory diseases, nutritional disturbances, gastrointestinal infections, and cutaneous diseases. Another important factor is the lack of medical assistance during childbirth. Only 30 to 50 per cent of Rumanian mothers are assisted by doctors or midwives during labor. Absence of medical attention during the first year of life adds still further to the high mortality. Finally, social factors are involved in this situation. Thus, the infant mortality rate among the poorer classes is three times as great as that found in well-to-do groups. Significant social factors are income, quality and quantity of food, housing, and working mothers.

In order to reduce infant mortality, Banu proposes a planned campaign based upon the preceding analysis. This would require satisfactory statistical data, organization of the campaign against pathological conditions so as to take into account regional variations, proper provision of medical care during labor and during childhood, and finally improvement of living conditions for mother and child.

RECRUITS—A CRITERION FOR THE STUDY OF THE BIOLOGY OF A POPULATION [3]

Banu and Dinu call attention to the public health significance of statistical data on military recruits. These data are important because the recruits are an expression of the biological and social environment from which they come, and can therefore give valuable information on the demographic, social, and public health problems of Rumania.

Conscripts are called up every year at the age of 20 for military duty. This study, the first of its kind in Rumania, was carried out over a 7 year period (1941–1947). During the years 1941 to 1946, it was found that from 32 to 35 per cent of those due to report for military service were dead. These percentages showed considerable regional variation. The mortality was much

greater in rural districts (33.8 per cent) than in urban areas (28.4 per cent). This inequality is an expression of the variation in the living standards of different regions, and in the application of public health practices.

Of the recruits examined during the 7 year period, 1941–1947, 5.9 per cent were rejected. On breaking down this overall figure, it was found that of those called up from urban areas 10.2 per cent were rejected, while among those from rural areas, 5.9 per cent were rejected. The causes of rejection, in order of importance, were tuberculosis, congenital and acquired malformations, mental diseases, diseases of the nervous system, surgical diseases, deaf-mutism, dwarfism and infantilism, developmental defects and general debility, eye diseases, and goiter.

REGIONAL CHARACTERISTICS OF RUMANIA WITH REGARD TO INFECTIOUS DISEASES [4]

In this study, Banu and his coworker, Rugina, undertook detailed analyses of morbidity and mortality statistics for infectious diseases in Rumania. As in the investigations noted above, there is considerable regional variation in morbidity and mortality. Regarding the factors which determine this variation, there is an undeniable correlation between standards of living and availability of public health facilities on the one hand, and the level of morbidity and mortality on the other. Areas that have a low standard of living and poor public health facilities tend to have the highest morbidity and mortality rates.

During the 5 year period 1935–1939, the mortality figures in the provinces ranged from 94.4 per 100,000 in Moldavia to 41.7 in the Banat. Similarly for the administrative departments the figures varied from 121.7 in Tecuci to 28.7 in Timis. In addition to the overall figures, separate analyses were made for typhoid fever, scarlet fever, measles, and whooping cough. The general trends were the same as for the overall figures. To cope with this problem, an extensive campaign of prevention based on precise factual data is proposed. Such a program must take into account the conditions found in different regions.

CONTRIBUTIONS TO THE STUDY OF THE BIOLOGY OF THE WORKING WOMAN [5]

In the summer of 1945, Banu and Sapira undertook a medico-social study of 512 women workers from seven factories in Bucharest. These women were employed in the following industries: textiles, food, leather goods, electrical, cardboard boxes, and cosmetics. The study was based on a detailed questionnaire which dealt with the family history, economic and social conditions, literacy, past and present medical history, working conditions, number of children according to age, and medical and social status of the children. This was supplemented in each case by a clinical examination.

The age distribution of the group shows that 1 per cent was between the ages of 10 and 15, 10.2 per cent in the 15 to 20 age group, and the largest number, 23 per cent, was in the 20 to 25 group. After 40 years the percentage employed fell steeply. The women aged 20 to 40 years made up 70.7 per cent of the total.

Of the 512 women in the group, 46 per cent came from towns and 54 per cent from rural areas.

In regard to personal hygiene, it was found that 60 per cent of these women workers take their bath weekly, either at home or at the factory.

Analysis of other medical histories showed that 43.5 had suffered from acute infectious diseases (diphtheria, scarlet fever, and typhoid fever were most common), 14.3 per cent from surgical conditions, 12.5 per cent from pulmonary conditions exclusive of tuberculosis, 11.7 per cent from gynecological complaints,

and 10.4 per cent from ear, nose, and throat conditions. Other diseases listed concerned the gastrointestinal tract, blood, urinary passages, skin, nervous system, and the eyes. Of the social diseases, malaria accounted for 22.3 per cent of cases of previous ill health, rheumatic conditions for 10.7 per cent, venereal disease for 5.7 per cent, and tuberculosis for 5.1 per cent. The investigators point out that the figure for venereal disease falls far below the actual situation, owing to the impossibility of obtaining accurate data.

At the time when the investigation was actually carried out, the following medical conditions were found among the 512 women: 8.4 per cent suffered from rheumatic conditions, 8 per cent from pulmonary tuberculosis, 5.1 per cent from cardiovascular conditions, 3.9 per cent from visceral syphilis, 3.3 per cent each from pleurisy and malaria, and 0.6 per cent from sciatica.

In the course of the study it was found that despite various legal prohibitions 63 of the women had already been employed in industry while they were still under 14 years of age. Of all the women, more than 40 per cent had gone to work before the age of 18.

Study of the maternity situation in this group showed that 273 had never had any children. Among the remaining 239 the average pregnancy rate was 2.6 for each woman. The percentage of women with only one pregnancy was 43.5 while 18.1 per cent reported having more than five pregnancies. The rate of abortion was 37 per cent, that of premature births 3.1 per cent.

VENEREAL DISEASES IN RUMANIA AND MEASURES, FOR THEIR CONTROL [6]

Nicolau and Theodoresco point out the considerable increase in venereal disease in Rumania as a consequence of the last war, and consider what can be done to master this problem. The legal basis for venereal disease control has a number of excellent provisions—obligation to obtain treatment, free treatment for those unable to pay, obligatory premarital examination, provision for compulsory hospitalization of recalcitrants. Nevertheless, full benefit has not been obtained from this law because of the laxity with which it has been applied. Consequently, a demand is raised for more stringent application of the law, and for more adequate provision for case finding and treatment. New hospitals and dispensaries are urgently needed in cities and towns. For the prosecution of the anti-venereal campaign in the rural areas the authors propose a system of motorized dispensaries, equipped with all the means needed for case finding and treatment. Finally, stress is laid upon the absolute necessity for a concurrent campaign of health education to explain the nature and consequences of venereal infection, as well as to disseminate knowledge concerning individual prophylaxis.

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ASSOCIATION NEWS

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This is a service of the Association conducted without expense to the employer or employee.

Address all correspondence to the Employment Service, A.P.H.A., 1790 Broadway, New York 19, N. Y., unless otherwise specified.

(Supplemental to list in October Journal)

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Director for the Alcoholic Clinic of the D. C. Health Department. Salary range $8,179–$9,376 per annum. Male, graduate of grade A medical school, preferably diplomate of the American Board of Psychiatry and Neurology with broad and progressive professional and medical experience including four years in psychiatry. Ability in organization and direction and coördination of medical activities. Should have had at least one year's experience in the handling of alcoholic patients either in a mental hospital, city general hospital, sanatorium, or in private practice. Must possess qualifications to obtain license to practise medicine in the District of Columbia. Excellent opportunity for applicant possessing necessary qualifications. Write: George C. Ruhland, M.D., Health Officer, Washington, D. C.

Public Health Nurse Supervisor with certificate or one year of graduate study in public health. Salary range $3,336–$3,816. Vacation, sick leave, retirement plan, 5 day week, permanent tenure. Car furnished. Write: Charles A. Neafie, M.D,. Director, Department of Public Health, Pontiac 15, Mich.

Bacteriologist-Serologist. College degree, with experience in a public health laboratory. Salary $270 to $320. Retirement benefits, vacation, sick leave, permanency. Write: Charles A. Neafie, M.D., Director, Department of Public Health, Pontiac 15, Mich.

Chief Health Officer for city health department. M.D. preferably with public health training and experience. State experience and salary expected. Write: Acting City Manager, Bluefield, W. Va.

Public Health Nurses with experience for Deschutes, Hood River, and Grant Counties in Oregon. Salary open. Ample travel allowance in addition to salary. Permanent. Write: Dr. Harold M. Erickson, State Health Officer, 1022 S. W. 11th Avenue, Portland 5, Ore.

Public Health Nurses. Immediate openings available. Generalized public health nursing program. $2,700 salary to start or more depending on qualifications, plus $700 travel allowance. Write: Director, Ottawa County Health Department, Grand Haven, Mich.

Public Health Nurse in small county near Portland, Ore. Salary $250. Car and upkeep furnished for official work. Wire immediately Hood River County Health Association. Hood River, Ore.

Public Health Nurses needed in New York City Health Department. General service. Immediate appointment on provisional basis. Starting salary $2,400, 35 hour week, liberal vacation allowance, in-service training. Write or come to the Bureau of Nursing, City Health Department, 125 Worth Street, New York 13, N. Y.

1. **Public Health Staff Nurse,** salary $2,700 a year, plus $600 travel.
2. **Assistant Sanitarian,** salary $3,000 a year plus $600 travel. Write: Emily R. Hautau, M.D., Midland City-County Health Department, Midland, Mich.

Health Educator for State Tuberculosis Association in New England. Duties include consultant work with affiliated associations throughout state to promote community organization for health education and public health action. Master's degree in public health and/or health education, plus two years' experience in health education work. Salary about $3,000 depending on qualifications and experience. Write: **Box A34,** Employment Service, A.P.H.A.

Supervising Nurse and Two Public Health Nurses for generalized program in Colusa County in Northern California. Excellent opportunity for trained personnel to organize and operate a new, progressive public health program. Salaries, $300 and $325, 7 cents mileage, housing available, car can be purchased locally. Write: Colusa County Health Department, 215 Fifth Street, Colusa, Calif.

Assistant Health Officers: 1. Maternal and Child Health; 2. VD Control and Epidemiology. Public Health degree or

two years of public health experience. Salary $7,140 to $8,916 annually.

Public Health Nurses, generalized public health program throughout incorporated cities and county area. Retirement, automobile furnished. Salary range $2,928 to $3,660 annually.

Sanitarians, generalized program, 2 years or more of college with major in basic sciences. Salary range $2,928 to $3,660 annually. San Joaquin Valley, County population 250,000, civil service. Write: Fresno City-County Health Officer, 203 Court House, Fresno, Calif.

Orthopedic Nurse Consultant with the Florida Crippled Children's Commission. Qualifications must meet requirements established by this agency and include orthopedic training and experience in supervision and administration in public health. Write: Dr. L. J. Graves, Director of Services, P. O. Box 1028, Tallahassee, Fla.

Venereal Disease Control Physician Minimum three years' experience in V.D. control work. Graduate of approved medical school, plus one year rotating internship supplemented by one year of graduate training leading to M.P.H. degree. $6,480 to start, advances to $7,800. Permanent, civil service, retirement. Write: Harold M. Erickson, M.D., State Health Officer, Oregon State Board of Health, 1022 S. W. 11th Avenue, Portland 5, Ore.

Virologist: experience in performing diagnostic complement-fixation, agglutination, and neutralization tests, animal inoculations and research in virology. Teaching of medical students and technicians essential. Salary ranges from $5,000 upward. Write: Director of Laboratory, Erie County Laboratory, 2100 City Hall, Buffalo 2, N. Y.

Qualified Health Officer with the Tri-County District Health Department. Salary $8,000 annually plus travelling expenses. Applicant should possess adequate experience in directing a District Health Department. Write: Tri-County District Health Department, 4200 E. 9th Avenue, Denver, Colo.

Public Health Nurse with a Public Health Certificate or the equivalent and experience for employment with the Tri-County District Health Department. Starting salary $230 per month plus travel at 7¢ per mile. Write: Tri-County District Health Department, 4200 East 9th Avenue, Denver, Colo.

Veterinary Bacteriologist, male, for mid-western department of agriculture; new laboratory; diagnostic tests, ordering of equipment, supplies, stocks, etc., liberal salary. Write: **Box A-33,** Employment Service, A.P.H.A.

Sanitarian with completed training course. Generalized sanitation program. County of 62,000 population. Car allowance; vacation; sick leave and retirement benefits. Beginning salary $2,736 annually. Write: Department of Public Health, 842 Front Street, Santa Cruz, Calif.

Health Education Coördinator for generalized full-time program for County of 62,000 population on California sea coast. Salary $3,600 with travel allowance. Must own car. Write: same as above.

Health Officer and Director of the Kansas City-Wyandotte County Health Department; Salary $6,900 to $8,400. M.D.; graduate work in public health and experience required. Duties varied. Write: Edward W. Becker, Commissioner of Finance, Health and Public Property, City Hall, Kansas City, Kan.

Opportunities in Indiana

The Indiana State Board of Health has positions available for Branch Public Health Directors, Public Health Nurses and Public Health Engineers. Liberal retirement system. Personnel are needed too, for newly established city and county health departments. Qualified public health personnel are needed as:

Branch Public Health Directors	$6,600–8,100
Public Health Engineers IV	3,200–4,500
Public Health Nurses III	2,700–3,900
Public Health Nurses V	3,300–4,800

All applicants must have been graduated from a university of recognized standing. Write: Personnel Director, Indiana State Board of Health, 1098 W. Michigan Street, Indiana, Ind.

Fellowships

Postgraduate public health Fellowships—A limited number of fellowships are available to physicians for one year of postgraduate study leading to a Master of Public Health degree. This study requires one academic year at a school of public health

approved by the American Public Health Association, followed by 3 months of acceptable or approved field training. Awards are based on the individual need of each applicant. Fellowships may cover tuition, maintenance, and an allowance for books, if required. For further information write to: National Foundation for Infantile Paralysis, 120 Broadway, New York 5, N. Y.

Announcement

A competitive examination for appointment in the Regular Corps of the United States Public Health Service in the grades of Assistant Scientist and Senior Assistant Scientist will be held in the near future. Applicants for the Assistant Grade must be citizens of the United States, at least 21 years of age; possess a Doctor's degree in a natural or social science from a university of recognized standing, and have had seven years of educational and professional training and experience. Applicants for the Senior Assistant grade must meet the above requirements with ten years of educational and professional training. Entrance pay for the Assistant grade with dependents is $3,811 per year and for the Senior Assistant grade with dependents $4,351 per year. Application forms and additional information may be obtained from the Public Health Service Hospitals and District Offices or by writing to the Surgeon General, U. S. Public Health Service, Washington 25, D. C.

Public Health Nurse with Public Health Certificate. Beginning salary $2,812 to maximum of $3,208. Car furnished. Liberal vacation and sick leave allowance with pay; 41 hour week. Write: Civil Service Board, City Hall, Jackson, Mich.

Supervising Public Health Nurse. Present salary range $259.25 to $314.25, plus car allowance; automatic increases; cost-of-living salary adjustments semi-annually. Write: Personnel Division, City Hall, Madison 3, Wis.

Biochemist with Ph.D. degree with experience in metabolism and endocrinology. To act as director of laboratories and do research in methodology. Position requires occasional travel. Annual salary about $5,200. Write **Box A-35**, Employment Service, A.P.H.A.

Nutrition Consultant—generalized public health nutrition program including consultation to institutions in a specified area. Salary $2,640 plus $180 cost of living with annual increment. Experience and training—not less than six years' employment as a nutritionist or dietitian in a social welfare or health agency, agricultural extension service, hospital, child caring institution, food clinic or nursery school, preferably with experience in group instruction, or as a teacher of home economics including nutrition, or graduation from college with major courses in foods and nutrition and two years' employment of the above type or an equivalent combination of experience and training. Write **Box A-36**, Employment Service, A.P.H.A.

POSITIONS WANTED

Chemist. Ten years in biochemistry, bacteriology, and five years in environmental sanitation wishes laboratory position in sanitary chemistry in western state. Write **Box C-6**, Employment Service, A.P.H.A.

Biological and Physical Chemist. Extensive experience research, development, control, manufacture of pharmaceuticals, biologicals, foods. University Professor, Ph.D., former head development department large drug manufacturer, 60 publications, books. References. Age 36, family. Seeks position of increased responsibility. New York metropolitan area preferred; South America assignments considered. Write: **Box C-5**, Employment Service, A.P.H.A.

Public Health Administrator and Medical Analyst; ten years' experience in public and private agencies, specialist medical care administration and analysis, M.P.H., available for executive or research position. Write **Box C-7**, Employment Service, A.P.H.A.

Advertisement

All communications should be sent to Burneice Larson, Medical Bureau, Palmolive Building, Chicago 11, Ill.

Opportunities Available

WANTED—(a) Director of health, municipal health department, city of 70,000, Southeast. (b) Chief of bureau of school medical inspection and, also, chief of department of epidemiology; former should be qualified in school health; municipal health department, eastern city, important university medical center. (c) Student health physician; coeducational college; present enrollment around 7,000; large outpatient department; well equipped infirmary; town of 70,000, Southwest; $6,000–$7,200. (d) Public health physician for important position with preventive medicine program of large industrial company; should have administrative ability; opportunity for working into key position in one of the country's most important companies in industry; New York. (e) Professor of preventive medicine; should be qualified to teach preventive medicine and public health with primary emphasis on preventive medical aspects; university medical school; East. (f) Branch public health director; state department of health; minimum three years' experience required; $6,000–$8,100. **PH11-1**

WANTED—(a) Health educator, county health department; preferably someone with several years' experience in education including public relations, radio work, etc., headquarters in town of 90,000; East; $4,000–$5,000. (b) Sanitary engineers, nutritionists and other public health trained personnel; new project, Southwest. (c) Health education coördinator; county health department; newly created position; Southern California. (d) Vital statistician to supervise and maintain system of registration; degree with graduate training in public health or statistics required; state department of health; West; $5,100. (e) Health educator; duties consist of working with all types of organized groups, promoting school health education; university medical center; New England. (f) Public health engineer; state department of health; considerable experience required; $3,200–$3,500. (g) Sanitary engineer; state department of health; $4,500–$4,800 including traveling expenses; Middle West. **PH11-2**

WANTED—(a) Public health nurse for appointment of educational director; visiting nurse association; Southeast. (b) Public health nurse for administrative position, state department of health; headquarters in university medical center; $3,300–$4,800. (c) Director of public health nursing; state department of health; generalized program; headquarters in college town of 20,000; West; $3,700–$4,000. (d) Public health nurse for teaching position with voluntary health agency offering bedside nursing care and family health service to large city and surrounding area; East; $3,900–$4,200. (e) Assistant professor of public health nursing; preferably one with Master's degree and supervisory experience; collegiate school; $4,000–$5,000, 10 month year; additional income for summer teaching. (f) Student health nurses; liberal arts college; co-educational; town of 40,000; Middle West. (g) Public health nurse to take charge of children's clinic, unit of university group; university medical center; Southwest. **PH11-3**

Advertisement

Opportunities Wanted

Woman physician well trained in internal medicine and public health; three years with health department of eastern city; four years, student health department, college for young women; for further information, please write Burneice Larson, Director, Medical Bureau, Palmolive Building, Chicago 11.

Public health dentist; B.S., D.D.S., eastern schools; Master's degree in Public Health Dentistry recently received; available immediately; for further information, please write Burneice Larson, Medical Bureau, Palmolive Building, Chicago 11.

Public health administrator; B.A., M.S., M.D., eastern schools; Master of Public Health, Johns Hopkins; several years director of public health program in foreign country; eight years, professor of preventive medicine and public health, university school of medicine; for further information, please write Burneice Larson, Medical Bureau, Palmolive Building, Chicago 11.

Health educator; M.A. in Health and Physical Education; four years, instructor in physical education, liberal arts college; six years, assistant professor, physical education young woman's college; two years on administrative staff, large industrial company in charge of promotional program; for further information, please write Burneice Larson, Director, Medical Bureau, Palmolive Building, Chicago 11.

Sanitary engineer; Bachelor's degree; since 1940, department of public sanitation, municipal health department serving as chief chemist and director; for further information please write Burneice Larson, Director, Medical Bureau, Palmolive Building, Chicago 11.

NEWS FROM THE FIELD

THE NATION'S HEALTH, A TEN YEAR PROGRAM

Early in September the Federal Security Agency released a report to the President by Oscar R. Ewing, Federal Security Administrator, consisting of a 186 page summary of the present resources for health, proposed methods of meeting deficiencies, proposed financing of the health program, and various means of solving the health problems facing the nation.

This report takes as its frame of reference the material considered at the National Health Assembly in May, 1948, but the report is not limited to the conclusions of the Assembly, and the Administrator, on his own responsibility, has made bold recommendations beyond those agreed to by the Assembly and for the information of the President and the American people.

Chapter by chapter this report considers the health of the nation, maintaining that every year 325,000 persons die in the United States whom we have the knowledge and skills to save. Bad health, according to the report, accounts for more than 4,000,000 man-years of work lost, and $27,000,000 in national wealth are lost through sickness, and through partial and total disability.

The report goes on to set a first health goal of increasing supplies of medical manpower until there is enough everywhere in the country to satisfy the health and medical needs of all the people. It is proposed to expand and establish medical schools, training schools, and teaching hospitals until by 1960 the annual production of medical manpower in all categories will have increased by 40 to 50 per cent. Targets for manpower are proposed in each state, based on levels of medical manpower already attained in the twelve states most adequately supplied.

The second health goal seeks to assure that there are enough hospital beds of all kinds everywhere to meet the people's needs and to finance hospitals so that they may give the highest quality services. The total beds should be doubled, adding at least 600,000 beds by 1960. It is proposed that auxiliary health and community centers should be built, particularly in rural areas, and that hospitals and health centers should be united into regional chains so that the most remote regions will have full access to modern medicine.

The third health goal seeks to assure that every individual without regard to his economic status has full access to adequate medical services for the prevention of illness, the care and relief of sickness, and the promotion of a high level in physical and mental health. The conclusions of the planning committee of the Medical Care Section, National Health Assembly, are reproduced. A national plan of sickness insurance is proposed. This goes well beyond the area of agreement reached at the National Health Assembly.

The fourth health goal focuses attention on mental health as the leading area needing medical progress in the second half of the present century. Research in the field of psychiatry should be promoted, as well as in the mental-emotional aspects of physical illness. Manpower facilities for both preventive and curative work in mental health throughout the country should be expanded.

The fifth health goal proposes that everyone in the nation be enabled to enjoy a healthy, active, and productive

maturity. Chronic disease is presented as the greatest single barrier to achievement of this goal. The change in the age composition of our population is emphasized and the various causes of death from chronic diseases are presented.

The sixth health goal proposes to rehabilitate the 250,000 men and women who become disabled through illness or injury every year so that they can be restored to the most nearly normal life and work of which they are individually capable.

The seventh health goal seeks to assure to every child in the country the utmost degree of health, defined as a condition in which all his physical and mental powers are functioning at their best. It is proposed to do this through a national plan that will build progressively toward complete medical care and social, psychological and health services for all children and for mothers in childbirth.

The eighth health goal represents planning and action in every community in every state directed toward providing the best possible health conditions for all people by assuring adequate local supply of needed services and by organizing the local agencies of health, the doctors, hospitals, public health departments, and voluntary groups into effective teamwork for the welfare of the entire community.

The ninth health goal is to establish everywhere local health units with full-time qualified staffs adequate for the needs of the population; to increase and improve the training of public health workers to the end that their number shall be doubled as rapidly as feasible. An expansion of the present system of federal grants-in-aid through state health departments is proposed in the amount of an immediate increase to $40,000,000 annually, which by 1953 should rise to $53,000,000.

This report, attractively presented, is available from the Superintendent of Documents in Washington at the price of $1. It should be read in the original by every public health worker who will see goals toward which he has worked restated by a responsible federal official who has projected the entire public health program to a new level of public acceptance. Readers of the report may differ as to the advisability of means proposed but, with the exception of the methods advocated for sickness insurance, the means are in general in line with those proposed by the National Health Assembly.

REGIONAL OFFICES FOR FEDERAL SECURITY AGENCY

The ten regional offices for the Federal Security Agency, announced by Administrator Oscar Ewing in July, are now in operation. The field activities of all the units of FSA—U. S. Employment Service, Children's Bureau, Public Health Service, Office of Education, Food and Drug Administration, Office of Vocational Rehabilitation, and Bureau of Employee's Compensation—will be coördinated in the agency regional offices. Heretofore, the various units established their own regional offices with varying boundaries.

In announcing the ten regions, Federal Security Administrator Ewing said, "The various programs of FSA form an integrated pattern for the nation's health, education, and social security. I hope that for the general public the regional offices will become widely known as a source of information about the many programs administered by FSA.

The regions, the states covered, the regional directors, and headquarters are as follows:

I. Maine, Vermont, New Hampshire, Massachusetts, Connecticut, Rhode Island — John F. Hardy, Boston, Mass.

II. New York, New Jersey, Pennsylvania, Delaware—Joseph B. O'Connor, New York, N. Y.

III. Maryland, District of Columbia, Virginia, West Virginia, North Carolina—Erval R. Coffey, M.D., Washington, D. C.
IV. Michigan, Ohio, Kentucky—J. Kimball Johnson, Cleveland, Ohio
V. Minnesota, Wisconsin, Illinois, Indiana—Ed McDonald, Chicago, Ill.
VI. Tennessee, Mississippi, Alabama, Florida, South Carolina, Georgia—Richard H. Lyle, Atlanta, Ga.
VII. North Dakota, South Dakota, Nebraska, Kansas, Iowa, Missouri—James W. Doarn, Kansas City, Mo.
VIII. Louisiana, Arkansas, Texas, Oklahoma, New Mexico—James H. Bond, Dallas, Tex.
IX. Montana, Idaho, Wyoming, Utah, Colorado—Heber R. Harper, Denver, Colo.
X. Washington, Oregon, California, Nevada, Arizona—Fay W. Hunter, San Francisco, Calif.

Each of these regional directors had previously served as a regional director in some unit of the Federal Security Agency. Dr. Coffey, the director of the new region III, is the only medical director of the former eight Public Health Service districts to become an FSA regional director.

AUSTRIAN PUBLIC HEALTH ASSOCIATION ORGANIZED

The Austrian Public Health Association, Vienna, has recently been established under the Presidency of Professor F. Reuter, Chief of the Public Health Office, Austrian Department of Social Welfare.

Principal among the purposes of the Association are improving the nutritional situation of the most vulnerable groups of the population, public health education, with special reference to foods, and focused on teachers, nurses, students, mothers, and housewives. Radio programs are also planned, together with health exhibits and motion pictures. Dr. Wilhelm Halden of Sanatorium Mariahilf, Klagenfurt, is the Secretary. The *American Journal of Public Health* for the current year has been sent to the Austrian Public Health Association with the greetings of the American Public Health Association.

DR. JACKSON JOINS CANADIAN DEPARTMENT OF NATIONAL HEALTH AND WELFARE

Fred W. Jackson, M.D., D.P.H., of Winnipeg, Manitoba, who for the past 17 years has been Deputy Minister of Health and Public Welfare for the Province, has been appointed Director of Health Insurance Studies in the Department of National Health and Welfare, Ottawa. Dr. Jackson was one of the Canadian representatives at the fifth meeting of the Interim Commission of the World Health Organization, Geneva, and while overseas spent some time studying the United Kingdom's Health Insurance and Social Security plans. Since 1939 Dr. Jackson has been Professor of Preventive Medicine at the University of Manitoba, and for several years has been a lecturer at the School of Hygiene, University of Toronto.

The new provisions of federal grants-in-aid to the Canadian Provinces, according to the Prime Minister, represent a beginning of a complete health service for the Dominion of Canada. Dr. Jackson's work will be in the preparation of a health insurance plan for Canada.

ULSTER COUNTY (NEW YORK) PLANS TUMOR CLINIC

On September 10 the cornerstone of the Ulster County Tumor Clinic in Kingston was laid at ceremonies addressed by Dr. Morton L. Levin, Assistant State Commissioner of Health, Albany. The building is to cost $300,000. This clinic, which has been designed for diagnosis, treatment, and research in cancer, is to be built with county funds set aside by the Ulster County Board of Supervisors for post-

war purposes. It is expected that the clinic will be opened in the summer of 1949.

In his address Dr. Levin said that a master plan for control of cancer is comprised of widespread public education, complete physician participation, tumor clinic facilities, detection center facilities, continued follow-up and aftercare of cancer patients, and research.

DR. PARRAN RECEIVES DISTINGUISHED SERVICE MEDAL

On September 3, Kenneth C. Royall, Secretary of the Army, presented to Dr. Thomas Parran, former Surgeon General of the U. S. Public Health Service, the Distinguished Service Medal in recognition of Dr. Parran's aid and advice in developing the Army's wartime preventive medicine program.

DR. GARNIER APPOINTED LOUISIANA STATE HEALTH OFFICER

The appointment of W. V. Garnier, M.D., of Bastrop, as President of the Louisiana State Board of Health was announced on July 8. Dr. Garnier succeeds Waldo Treuting, M.D., M.P.H., who has joined the teaching staff of Tulane University School of Medicine, New Orleans, retaining a status as Consultant to the State Board of Health.

S. J. Phillips, M.D., M.P.H., has been appointed assistant to Dr. Garnier. Dr. Phillips, a native of Louisiana, has a degree in public health from the University of North Carolina.

PITTSBURGH'S NEW SCHOOL OF PUBLIC HEALTH

On September 22 it was announced that the University of Pittsburgh had received a grant of $13,600,000 from the A. W. Mellon Educational and Charitable Trust for the establishment of a Graduate School of Public Health as a part of the university's Medical Center. Concurrently it was announced that the first Dean of the School would be Dr. Thomas Parran, former Surgeon General of the U. S. Public Health Service for 12 years, and most recently Chairman of the U. S. Delegation to the First World Health Assembly in Geneva. Dr. Parran will also serve as consultant to Chancellor R. H. Fitzgerald of the university on the medical sciences.

In announcing the gift Paul Mellon, Trustee of the Mellon Trust, said, "The project is conceived as a nucleus from which, through extensive research and the association of others active in the field, there will evolve a great institute of preventive medicine for the betterment of health conditions of the people of Pittsburgh and similar urban industrial areas and also with benefits to the country at large and mankind in general. Careful studies of the Pittsburgh area convinced us that better health facilities are a vital need in the Pittsburgh area. Professional authorities told us that Pittsburgh's health needs can best be met through the training of professional leaders and the creation of facilities for research on urgent problems of public health."

Under the agreement with the university, the Mellon Trust has made available immediately an endowment of $4,000,000 to enable the university to obtain outstanding men for the organization of the school and to assure adequate faculty and teaching facilities. An additional endowment of $3,000,000 will be provided within 5 years when it appears that the school has developed into a successful undertaking. Five million dollars is allocated for the construction of school and laboratory buildings, and $1,600,000 for developmental costs and operating and equipment costs during the first 5 years of operation.

The school will prepare students for the Master of Public Health and Doctor of Public Health degrees, both postgraduate to degrees in medicine, dentistry, sanitary engineering, nursing,

bacteriology, and allied sciences. There are 10 similar schools in the United States and Canada accredited by the American Public Health Association to grant these public health degrees. They are located at Harvard, Yale, Columbia, Johns Hopkins, Toronto, and Tulane Universities, the Universities of California, Michigan, Minnesota, and North Carolina. These grant public health graduate degrees to between 500 and 600 students annually, a number far short of that needed to man existing health services. Mr. Mellon said in announcing the gift, "This School will serve not only Pittsburgh and Pennsylvania, but its goal will be to attain world leadership in industrial and occupational health and in other fields of preventive medicine."

Dr. Parran has been full time in Pittsburgh since he returned from Mexico City early in October, where he attended a meeting of the Pan American Sanitary Bureau. He predicted that the new school would open its doors to students in 1950, since it would take that long for buildings to be constructed and a "key faculty" to be selected. The school's success, he said, will be measured by the quality rather than the number of students, and "quality" students depend on "quality" faculty.

PROGRESS IN PUBLIC HEALTH SPECIALTY BOARD

The first regular meeting of the members and Trustees of the American Board of Preventive Medicine and Public Health, Inc., was held in Chicago September 26 with the following persons present:

Floyd C. Beelman, M.D., Topeka, Kan.
Walter L. Bierring, M.D., Des Moines, Iowa
Richard F. Boyd, M.D., Washington, D. C.
William P. Shepard, M.D., San Francisco, Calif.
Ernest L. Stebbins, M.D., Baltimore, Md.
Felix J. Underwood, M.D., Jackson, Miss.
V. A. Van Volkenburgh, M.D., Albany, N. Y.
Eustace W. Tomlinson, New York—Attorney for the Board
Gaylord W. Anderson, M.D., Minneapolis, Minn.
Reginald M. Atwater, M.D., New York, N. Y.

It will be recalled that the Board was duly incorporated in July, 1948, under the laws of Delaware (*A.J.P.H.*, Sept., 1948, p. 1348). The By-Laws of the Board were adopted as approved by the incorporators after minor changes.

The following officers of the Board were elected to serve until the 1949 Annual Meeting of the Board:

Chairman: Walter L. Bierring, M.D.
Vice-Chairman: Felix J. Underwood, M.D.
Secretary-Treasurer: Ernest L. Stebbins, M.D.

The Board adopted the form of application for certification of physicians having special knowledge of preventive medicine and public health.

The Board discussed at length the accreditation of field training areas where residency experience could be obtained and counselled with Dr. Gaylord W. Anderson, *Chairman* of the Subcommittee on Field Training Areas, Committee on Professional Education, A.P.H.A.

Steps were taken to meet all the requirements of the Advisory Council on Medical Specialties for the recognition of the American Board of Preventive Medicine and Public Health as one of the official specialty boards.

The Board directed that it be made clear that the Board was not yet ready to receive applications from persons wishing to be accredited but that notice would be published in the *American Journal of Public Health* and other channels when that time comes.

It is expected that the Interim Board for Preventive Medicine and Public Health organized by the U. S. Army, Navy, and Public Health Service would be replaced by the American Board of Preventive Medicine and Public Health at an early date.

MEETING NEW PROBLEMS IN MILK SANITATION PROGRAMS

To meet the increasingly complex problem of milk control due to varied and often overlapping supervision by cities, increased milk production within the state and a demand for interstate shipment, and to the necessity for sanitation control of frozen desserts and other milk products plants, the Division of Health of Missouri has created a Milk Sanitary Advisory Council consisting of 9 members, 2 of them ex officio. Each, representing an official public health agency, is responsible for supervision of the milk sanitation program of his area. The Council will study current and special problems, and make recommendations to the Director of the Division of Health in an attempt to secure uniform application of procedures throughout the state. Council members are:

I. H. Baird, D.V.M., Director of Milk Control, St. Joseph
Raymond Bishop, Sanitary Inspector, Boonville
Charles E. Carl, Public Health Engineer, State Division of Health
W. J. Dixon, Director, Public Health Engineering, Kansas City Health Dept.
M. R. Fisher, D.V.M., Director, Milk Control, St. Louis Division of Health
L. W. Pickles, Director, Sanitation Section, St. Louis County Health Dept.
Jack K. Smith, Public Health Engineer, Jackson County Health Dept.
R. W. Hart, ex officio, U.S.P.H.S., Kansas City
W. Scott Johnson, ex officio, Director of Environmental Sanitation, State Division of Health

BACTERICIDAL PROPERTIES OF CHLORAMINES AND FREE CHLORINE IN WATER

A review by C. T. Butterfield, *Public Health Reports*, of July 16, 1948, presents various experiments to determine the relative effectiveness of chloramines as compared with free chlorine. The following primary factors are cited as governing the bactericidal efficiency of free chlorine and the chloramines:

1. The longer the time of contact of organism and bactericidal agent, the more effective sterilization.

2. The lower the temperature of the water in which the contact is made, the less effective the sterilization.

3. The higher the pH of the water in which contact is made, the less effective the sterilization. Thus, when a combination of high pH and low temperature is encountered, poorest results are to be anticipated.

DR. HEUSTIS MICHIGAN HEALTH COMMISSIONER

Albert E. Heustis, M.D., Director of the Branch County (Mich.) Health Department and earlier of the Monroe County Health Department, was recently appointed Health Commissioner of Michigan by Governor Kim Zigler. Since the resignation of William DeKleine, M.D., as Commissioner early in the year, Michigan has had two acting commissioners, first John K. Altland, M.D., Director of the Bureau of Local Health Services, and later George D. Cummings, M.D., Director of the Bureau of Laboratories. Each will continue in his regular post under the new commissioner.

Dr. Heustis who holds an M.P.H. degree from the Johns Hopkins School of Public Health is a non-resident lecturer in public health at the University of Michigan School of Public Health, a Trustee of the Michigan Hospital Association and Vice President and a member of the Board of Directors of the Southwestern Michigan Hospital Council.

THE ARTHRITIS AND RHEUMATISM FOUNDATION

Dr. W. Paul Holbrook, Tucson, Ariz., president, has announced the formation of this foundation to promote the study of arthritis and other rheumatic conditions with which it is estimated

7,500,000 persons in the United States are afflicted. The new foundation is sponsored by the American Rheumatism Association in coöperation with the National Arthritis Research Foundation, the Detroit Fund for Crippling Diseases, and others. The medical policies and activities are under the direction of a medical and scientific committee.

The main objectives include a nation-wide survey of what can be done to combat arthritis. It expects to: (1) develop, with the aid of the National Research Council, a research program designed to mobilize facilities of the nation's medical schools and of the basic sciences, in the search to discover the cause and methods for the prevention and cure of rheumatic diseases; (2) establish fellowships designed to increase the number of men qualified to conduct research and to specialize in the treatment of these diseases; (3) develop key centers throughout the country devoted to research, teaching, and treatment, coördinated with medical schools; (4) promote a program of medical education to increase the appreciation of the profession as a whole of what can and should be done to bring effective treatment to patients with rheumatism; (5) foster the development throughout the nation of more adequate provision for patients with rheumatism, particularly in connection with the work of general hospitals.

Local chapters numbering 38 throughout the nation will help to integrate programs of investigation within their areas as well as raise funds for the purpose of financing such local programs and providing an equitable share of the funds needed to promote the national program of research as well as general educational and planning activities designed to support and increase the effectiveness of local efforts.

The chairman of the board of directors is Floyd B. Odlum, Indio, Calif., president of the Atlas Corporation. Members of the Medical and Scientific Committee are:

Guy A. Caldwell, M.D., Professor of Clinical Orthopedics, School of Medicine, Tulane University of Louisiana

Russell L. Cecil, M.D., Professor of Clinical Medicine, Cornell University Medical College

Robley D. Evans, Professor of Physics, Massachusetts Institute of Technology

Morris Fishbein, M.D., Chicago, Editor, *Journal of the American Medical Association*

Philip S. Hench, M.D., Rochester, Minn., Professor of Medicine (Mayo Foundation), University of Minnesota Medical School

Andrew C. Ivy, Vice-President in charge of the Chicago Professional Colleges, University of Illinois

Karl F. Meyer, M.D., Director, the Hooper Foundation, University of California

Currier McEwen, M.D., Dean, New York University College of Medicine

Walter W. Palmer, M.D., Director, William Hallock Park Laboratories, Public Health Research Institute of the City of New York, Inc.

Howard A. Rusk, M.D., Professor of Rehabilitation, New York University College of Medicine.

COURSE IN LABORATORY DIAGNOSIS OF RABIES

A one week course in the Laboratory Diagnosis of Rabies, open to all grades of employed laboratory personnel, will be offered December 6 through December 10, 1948, at the laboratories of the U. S. Public Health Service's Communicable Disease Center in Atlanta, Ga.

Given primarily for laboratories of state and local public health departments and other official agencies responsible for the diagnosis of rabies, applicants from hospitals and private laboratories will be considered when vacancies occur. There is no tuition or laboratory fee, but travel and living expenses must be paid for by the individual or his employer.

Applications for the courses should be made as far in advance as possible

to Ernest S. Tierkel, Assistant Chief, Veterinary Public Health Division, Communicable Disease Center, 605 Volunteer Building, Atlanta 3, Ga.

NATIONAL HEART INSTITUTE ESTABLISHED

The National Heart Institute as a part of the National Institutes of Health, U. S. Public Health Service, was established in August in accordance with the National Heart Act of June, 1948. Its Director is C. J. Van Slyke, M.D., who was formerly director of the Research Grants and Fellowships Division of the National Institutes.

The first meeting of the National Advisory Council was held on September 8. Its membership of 12 appointive and 4 ex officio members is drawn from leaders in scientific research, medicine, education, and public affairs, and serves as the advisory body to the Public Health Service in administering the Heart Institute.

The members of the Advisory Council are:

James S. Adams, Lazard, Freres & Co., New York, N. Y.

Dr. C. A. Elvehjem, Dean, Graduate Schools, University of Wisconsin, Madison, Wis.

Maurice Goldblatt, Chicago, Ill.

Tinsley Harrison, M.D., Southwestern Medical College, Dallas, Tex.

T. Duckett Jones, M.D., Medical Director, Helen Hay Whitney Foundation, New York, N. Y.

Mrs. Albert D. Lasker, New York, N. Y.

Ernst Mahler, Kimberly-Clark Corporation, Neenah, Wis.

E. B. McNaughton, President, Oregonian Publishing Co., Portland, Ore.

Irvine H. Page, Director, Research Division, Cleveland Clinic Foundation, Cleveland, Ohio

B. O. Raulston, M.D., Dean, Medical School, University of Southern California, Los Angeles, Calif.

Paul D. White, M.D., Massachusetts General Hospital, Boston, Mass.

Albert J. Wolf, President, Board of Trustees, Touro Infirmary, New Orleans, La.

Colonel James S. Taylor (Army), Chief, Cardiovascular-Renal Section, Walter Reed General Hospital, Washington, D. C.

Leonard A. Scheele, M.D., Surgeon General, U. S. Public Health Service, Washington, D. C.

E. H. Cushing, M.D., Department of Medicine and Surgery, Veterans Administration, Washington, D. C.

Commdr. R. C. Parker, Jr., U. S. Naval Hospital, National Naval Medical Center, Bethesda, Md.

DIABETES DETECTION DRIVE

The American Diabetes Association, Inc., Brooklyn, N. Y., has announced the appointment of a Committee on Diabetes Detection with the aim to arouse interest among doctors generally and health agencies, in the problem of the earlier discovery and treatment of diabetes. Special programs have been planned in communities across the country during Diabetes Week, December 6–12, for the purpose of explaining this effort and initiating a continuing program. Charles H. Best, M.D., Toronto, is President and George E. Anderson, M.D., Brooklyn, Secretary of the Association. The Committee on Diabetes Detection is under the Chairmanship of Howard F. Root, M.D., Boston, Mass., and includes H. L. C. Wilkerson, M.D., of the staff of the U. S. Public Health Service, Boston.

PASTEURIZATION OF ALL MARKET MILK AND CREAM RECOMMENDED

In early June, 1948, a conference of interested officials, called by the U. S. Department of Agriculture, was held in Chicago to discuss methods for the control of brucellosis. Joel I. Connolly, M.S., Assistant to the President, Chicago Board of Health, represented the A.P.H.A. One of the recommendations made by the subcommittee on Laws, Regulations and Appropriations was "that state laws require the pasteurization of all market milk and cream." Among the other recommendations was one which called for a special brucellosis eradication program for each state, to be started not later than 1949. To effect a control program, it was

recommended that a state director for the program be appointed in each state, and that in each county a disease control board for the eradication of brucellosis should be organized.

AMERICAN SOCIAL HYGIENE ASSOCIATION IN NATIONAL DEFENSE PROGRAM

The Board of Directors of the American Social Hygiene Association on June 8, 1948, authorized the reëstablishment of the Committee on National Defense Activities. The committee has received a special grant from the United Service Organizations to carry out its program. As a first step in the program the association has reëstablished a Washington Office at 1424 K St., N.W., Washington, with Eleanor Shenehon, formerly Director of Public Information and Extension, in charge.

The Defense Activities Committee is made up of Philip R. Mather, Chairman, George Baehr, M.D., Mrs. Dwight S. Perrin, Major General Irving J. Phillipson, Rtd., William F. Snow, M.D., and Ray Lyman Wilbur, M.D.

The U. S. Interdepartmental Venereal Disease Control Committee, representing the Army, Navy, Air Force, Public Health Service, and other federal agencies, through its Chairman, Oscar F. Ewing, has asked A.S.H.A. for the following services:

To act as adviser to Central Armed Forces Disciplinary Control Board of the National Defense Establishments in matters pertaining to civilian community education and the repression of prostitution.

To continue and expand services to supply confidential data regarding prostitution conditions in the environs of military establishments.

To give consideration to performing the functions of the Federal Social Protection Division, which no longer exists.

To make available to the Armed Forces, on request, educational material and advisory services.

To bring citizen support to good law enforcement, social treatment, and individual health education through the home, the church, and the school.

DR. HELMHOLZ REPORTS ON BCG INOCULATIONS IN EUROPE

In September, Henry F. Helmholz, M.D., chief pediatrician, Mayo Clinic, returned from Europe after serving a year as chief medical consultant for the United Nations International Children's Emergency Fund. He reported that tuberculosis in Europe is likely to be reduced drastically through the largest BCG mass immunization campaign ever undertaken, in which 15,000,000 children and adolescents were inoculated within a year and a half.

The BCG vaccine for Europe is prepared in the Serum Institute in Copenhagen and flown to other countries. The head of the Institute is Johannes Holm who has been in charge of the inoculation program since early summer. In September, two tuberculosis experts of the U. S. Public Health Service, Carrol Palmer, M.D., and Lydia Edwards, M.D., left for Copenhagen to begin work at the Institute on research involved in the program through which it is expected that approximately 50,000,000 children will be tested.

MODEL HEALTH CENTER FOR MEXICO CITY

The Institute of Inter-American Affairs has signed an agreement with the Ministry of Health in Mexico to construct a model health center in Mexico City, located in one of the poorest and most densely populated parts of the city. The health center will provide services for half of the district's population: clinics for venereal diseases, tuberculosis, acute communicable diseases, maternal and infant hygiene, mental and dental hygiene, a laboratory and facilities for health education, sanitary engineering and inspection, and a milk distribution center.

CALIFORNIA HAS DENTAL HEALTH BUREAU

A Bureau of Dental Health has been

established in the California State Department of Public Health, with Hugo M. Kulstad, D.D.S., as chief. The new unit will promote dental health education, give consultation service to local health departments and practising physicians, and conduct studies of dental disease incidence and preventive measures. Dr. Kulstad is chairman of the Council on Dental Health of the American Dental Association, past president of the Los Angeles Dental Society, director and past president of the American Society of Dentistry for Children, and a member of the executive council of the Southern California Dental Association.

DANISH HEALTH LAWS

Available in English translations are abstracts of a number of Danish public health laws. These are: The Combating of Venereal Diseases, Pregnancy Hygiene, Prevention of Morbidity and Mortality among children in the First Postnatal Year, School Medical Service, and Medical Examination of Children. Available from National Health Service, Copenhagen, Denmark.

Also available from the Danish Information Office, 15 Moore St., New York 4, are a series of pamphlets in English summarizing some of Denmark's social legislation. They are: Health Insurance and Hospitals in Denmark, Danish Maternity and Child Welfare, Care of the Aged in Denmark, and Danish People's Holidays.

DIRECTORY OF TUBERCULOSIS SANATORIUM BEDS

The National Tuberculosis Association has issued its 1948 *Tuberculosis Sanatorium Directory,* the first since 1942. It lists 830 institutions with 120,496 beds for patients with tuberculosis. Of the total, 17 institutions with 2,940 beds are in Alaska, Hawaii, and Puerto Rico. The number of beds has increased less than 2 per cent since 1942. The *Directory* is available from the National Tuberculosis Association, 1790 Broadway, New York 19.

WHO EXECUTIVE BOARD

The World Health Organization, permanently organized in Geneva at the first World Health Assembly June 24 to July 24 (*A.J.P.H.*, 38, 9:1347 (Sept.), 1948), was the ninth of the specialized agencies to be set up within the United Nations. Its Executive Board is made up of the representatives of 18 nations whose terms were assigned by lot. Future elections will be for a three year term. The countries and their representatives are shown below. Figures in parentheses indicate the length of their terms.

Australia: Dr. G. M. Redshaw (1)
Brazil: Dr. G. H. dePaula Souza (2)
Byelorussian S.S.R.: Dr. N. Evstaviev (3)
Ceylon: Dr. S. F. Chellappah (1)
China: Dr. W. W. Yung (2)
Egypt: Sir Aly Tewfik Shousha, Pasha (2), Chairman
France: Professor J. Parisot (2)
India: Colonel C. Mani (3)
Iran: Dr. M. H. Hafezi (1)
Mexico: Dr. J. Zozaya (2)
Netherlands: Dr. C. van den Berg (3)
Norway: Dr. K. Evang (1)
Poland: Dr. B. Kozusznik (3)
Union of South Africa: Dr. A. J. van der Spuy (3)
U.S.S.R.: Dr. N. A. Vinogradov (2)
United Kingdom: Dr. M. Mackenzie (1)
United States: Dr. H. Van Zile Hyde (1)
Yugoslavia: Dr. Andrija Stamper (3)

INTERNATIONAL HOSPITAL ASSOCIATION PROPOSED

At the 50th annual meeting of the American Hospital Association in Atlantic City in September, Thomas Parran, M.D., former Surgeon General of the U. S. Public Health Service and dean of the new school of public health being organized at the University of Pittsburgh, proposed a strong international hospital association with regional branches in areas having common

interests, to work with a world health organization.

At this meeting Joseph G. Norby, Superintendent of Columbia Hospital, Milwaukee, was inducted as president of the Association succeeding Graham Davis, Director of the Division of Hospitals, W. K. Kellogg Foundation. John Hatfield, of the Pennsylvania Hospital, Philadelphia, was chosen president-elect.

MUTUAL LIFE OFFERS RADIO SCRIPTS ON HEALTH

An educational series of 15 minute radio scripts, dramatizing public health problems, was made available in September by The Mutual Life Insurance Company of New York. The scripts will be offered without charge on a monthly basis through May as an educational service to teachers, librarians, club leaders, and radio stations. Gretta Baker, script writer and former member of the New York University faculty, is writing the series under the guidance of the company's medical department. In discussing the series, Miss Baker said: "The scripts can be used on or off the air. They are simply written, easy to produce, and make fascinating program material for club meetings, school assemblies, radio workshops, little theaters, and other community groups."

Free copies from the Public Relations Division, The Mutual Life Insurance Company of New York, 34 Nassau Street, New York 5.

MORE HELP FOR THE CEREBRAL PALSIED

The National Association of American Business Clubs adopted cerebral palsy as a national project in 1947. At its annual meeting in 1948, it undertook to raise by the end of the year $25,000 for production of an educational film on this disease. The funds raised will be turned over to the National Society for Crippled Children and Adults which will make the film. It is designed as a popular movie to tell the story of the treatment and training required to rehabilitate cerebral palsied persons.

PUBLIC HEALTH IN INDIA

The August Bulletin of the Government of India Information Services (2111 Massachusetts Avenue, N.W., Washington 8, D. C.) is devoted to India's efforts for public health. This is a good source of information on health education, training programs, medical research, refugee camp sanitation, and many other health matters in India, including the goals of the Ministry of Health.

FURTHER STUDY OF CHILD FEEDING

The Department of Nutrition of the Harvard School of Public Health, whose Chairman is Fredrick J. Stare, M.D., has been conducting a three year experiment in the teaching of good eating habits to children in the Newton (Mass.) schools. Through a grant from Swift and Co., and an additional grant from the Nutrition Foundation, which sponsored the first study, the experiment will be continued for another three years and will be extended to include a typical school in the South. The Newton research project involves a study of the problem of fitting nutrition education into regular school study courses, measuring the effectiveness of such education as a logical beginning for other health education and preparing teaching aids on nutrition.

75 YEARS OF AMERICAN NURSING

The Diamond Jubilee of Nursing in the United States is being celebrated by the American Nurses' Association in 1948. The purpose of the Jubilee is "to focus public attention on the extension and improvement of nursing service to all through the improvement of schools of nursing, economic security

for all nurses, adequate licensure laws, and more effective counselling and placement of both prospective students and graduate nurses" according to Pearl McIver, A.N.A. President.

As a feature of the celebration, November 14 to 20 is designated Nursing Progress Week. A Linda Richards Banquet will be held in New York on November 16 to memorialize the first professional nurse in the United States, graduated from the New England Hospital for Women and Children in 1873. The September, 1948, *American Journal of Nursing* contains a summary of Miss Richards's life and her contributions to the nursing profession in which she was an active practitioner until 1911 at the age of 70.

FORTIFYING ALASKA'S PUBLIC HEALTH

The U. S. Department of the Interior and the Federal Security Agency have awarded contracts for a 400 bed, $6,000,000 hospital at Anchorage, Alaska. Of the total, 300 beds will be reserved for tuberculosis, 100 for general medical or surgical cases.

In addition, the U. S. Public Health Service has established a field station in Anchorage as the nucleus of an Arctic Institute of Health, as recommended by American Medical Association—Department of the Interior survey of a year ago. Jack C. Haldeman, M.D., formerly Medical Consultant, U.S.P.H.S. in New Orleans, is in charge of the field station which began operation on October 1.

TUBERCULOSIS DIVISION IN MONTREAL HEALTH DEPARTMENT

The Montreal Health Department has created an independent division of tuberculosis from what has been, since 1938, a tuberculosis section of the communicable diseases division. The new division was created "because of the proportions taken by the fight against tuberculosis in the 10 years since 1937, the magnitude of the problem in the city, and the increase in the budget attributed to this branch of the work."

In 1937, when the tuberculosis section was developed, the tuberculosis death rate in Montreal was 82.2; in 1938 it was 74.8; in 1947 it had dropped 25 per cent to 56.4, and in the first six months of 1948, to 55.4.

THREE CHEMISTRY AWARDS

Dr. Dilworth Wayne Woolley, 34, of the Rockefeller Institute for Medical Research, New York, at the meeting of the American Chemical Society on August 30, in Washington, D. C., received the $1,000 Eli Lilly & Co. prize in biological chemistry for his studies of problems relating to vitamins and anti-vitamins.

Another $1,000 award—the Paul-Lewis Laboratories award in enzyme chemistry—went to Dr. Albert L. Lehninger, 31, Assistant Professor of Biochemistry in the University of Chicago departments of surgery and biochemistry and metabolism of fatty acids.

Dr. Gerty T. Cori of the Washington University School of Medicine, St. Louis, a 1947 Nobel Prize winner, for her work in biochemistry, received the Francis P. Garvan Medal honoring women in chemistry.

CANCER NURSING IN-SERVICE PROGRAM

A two week In-service Program for public health nurses on the clinical aspects of cancer was held in September at the Western Reserve University School of Nursing under the sponsorship of the Ohio State Health Department and with the coöperation of the University's School of Medicine, University Hospitals of Cleveland, and the Ohio Division of the American Cancer Society. Thirty-five nurse directors and supervisors of the Ohio Department of Health attended the institute.

TWO CALIFORNIA COUNTIES JOIN FORCES

Humboldt and Del Norte Counties in California have joined forces to form the second bi-county health department now operating in the state. The combined population of the two counties in 1946 was about 55,000. Boards of supervisors of the two counties agreed to a contract extending the services of the established Humboldt County Health Department over the entire area. Kenneth Haworth, M.D., is Health Officer.

MORE ABOUT "SCHOLARS IN MEDICAL SCIENCE"

In preparation for the selection of a second group of candidates in the Markle Foundation's program of grants for "Scholars in Medical Science" (see *Journal*, May, 1948, p. 755), the Foundation has published a booklet that describes the purposes of the grants to guide medical schools in making nominations for the coming year. It also lists the 16 scholars who are currently studying under the grants.

In this program, which the Foundation has substituted for its former medical research grants, only schools of medicine are permitted to nominate candidates. Nominations should be made by December 1, 1948, for the academic year 1949–1950. The booklet is available from The John and Mary R. Markle Foundation, 14 Wall Street, New York 5.

SEMINARS FOR MARYLAND HEALTH OFFICERS

A series of quarterly seminars in local health administration are being conducted by Ernest L. Stebbins, M.D., director of The Johns Hopkins School of Hygiene and Public Health, and Allen W. Freeman, M.D., consultant in public health administration to the State Board of Health, to provide regular opportunity for county health officers in Maryland to discuss their problems. The seminars will be held in four districts into which the counties have been grouped. The program for each session will be formulated by a health officer designated in advance of the meeting, who will prepare an outline of the problems to be discussed.

BABE RUTH FOUNDATION

The Babe Ruth Foundation has been organized to develop a program to help the "kids of America." Among its activities is the Babe Ruth Cancer Fund which received an initial gift of $100,000 from the Revere Camera Company of Chicago in September. The Cancer Fund will be administered by the American Cancer Society, with special emphasis on the problem of cancer among children.

The Babe Ruth Foundation will also aid in promoting the recreation and leisure time interests of children, and assist work aimed at the control and prevention of delinquency. Director of the Foundation is Shelby Harrison who retired as General Director of the Russell Sage Foundation about a year ago. Headquarters are in the Russell Sage Building, 122 East 22nd Street, New York.

VERMONT CANCER SOCIETY FORMED

The Vermont Cancer Society, Inc., was organized last spring as a division of the American Cancer Society, under the sponsorship of the Vermont State Medical Society, with Dr. Benjamin F. Cook, Rutland, as President and John W. Brownlee, Rutland, Secretary.

SCIENCE WRITING AWARDS

The George Westinghouse Science Writing Awards of $1,000 each were presented by the American Association for the Advancement of Science at its recent annual meeting to Frank Carey, science reporter in the Washington Bureau of the Associated Press, for the

best newspaper science writing for a four part series on "Newest Wonder Drug Conquers Dread Scrub Typhus," distributed by the Associated Press; and to Florence Moog, Ph.D., Assistant Professor of Zoölogy at Washington University, St. Louis, for the best magazine science writing for an article on "The Biology of Old Age," which appeared in the June issue of *Scientific American*.

BOSTON IS BEING SURVEYED

Two preliminary reports have been published concerning the Greater Boston Survey of Social and Health Needs and Services, which has been in progress since 1947. Called "the most inclusive (study) ever made in Greater Boston of total income and total expenditures for all social and health agencies," the study grew out of skyrocketing agency operating costs and deficits. Its purpose "is to make sure that the charitable dollar annually raised in Greater Boston does the greatest good for the greatest number in the most economical, effective way."

The two preliminary reports available thus far are reprinted respectively from the January, 1948, *Boston Business*, monthly publication of the Boston Chamber of Commerce, and June-July, 1948, *Bulletin of the Greater Boston Community Council*.

Director of the Survey is Robert P. Lane who was for 12 years director of the Welfare Council of New York. The five divisions of the Survey and their directors are: *Public Health*—Ira V. Hiscock, Sc.D., Chairman, Department of Public Health, Yale University, and Hugh Leavell, M.D., Dr.P.H., Professor of Public Health Practice, Harvard University School of Public Health; *Hospitals*—Basil C. MacLean, M.D., Director, Strong Memorial Hospital; The University of Rochester, and Albert W. Snoke, M.D., Director, Grace-New Haven Community Hospital, *Group Work and Recreation*—Lewis R. Barrett, Recreation Consultant, New York City; *Voluntary Casework*—Frederick I. Daniels, Executive Director, Brooklyn Bureau of Social Service, and Frank T. Greving, Executive Director, New York City Veterans Service Center; *Public Welfare and Statistics*—R. Clyde White, Ph.D., Professor of Public Welfare, School of Applied Social Sciences, Western Reserve University, and Genevieve C. Weeks, Director, Research Bureau, Greater Boston Community Council.

In addition, a division of planning and finance will be set up later, the work to be done by a panel of three members—a business man with experience in fund work and budgeting, a Fund Executive, and a Council Executive. The Chairman of this panel is Herman D. Smith of the Chicago office of Marsh and McKennan, Inc., and former President and now Vice President of the Chicago Community Council.

NEW HEALTH LAWS IN JAPAN

The Japanese Diet in July passed two health reforms, the Venereal Disease Prevention Law and the Preventive Vaccination Law. The first provides that all pregnant women are to have a health examination to determine the presence or absence of venereal disease; and all persons entering into marriage are to obtain certificates showing that they are free from venereal disease. Compulsory examination may now be performed on persons in whom there is reasonable evidence to suspect venereal disease, but if they claim there is not reasonable evidence they may appeal to a court for withdrawal of the order for a venereal disease examination. The law further requires that doctors give instruction to patients with venereal disease on how to protect others from their diseases and also as to treatment to be followed. Doctors must report to

health authorities the names and addresses of contacts and of those patients who fail to follow instructions pertaining to treatment and preventive measures. The law requires that all such information be kept confidential.

Until the Preventive Vaccination law was passed, compulsory vaccination was required only for smallpox; it is now required also for typhoid, paratyphoid, whooping cough, tuberculosis and diphtheria.

OHIO HAS BRUCELLOSIS CAMPAIGN

A campaign has been undertaken in Ohio jointly between the Ohio State Medical Association, the State Veterinary Medical Association, and the Department of Agriculture to attack the problem of brucellosis in Ohio. The State Medical Association has produced a pamphlet entitled "Mr. Farmer, Protect Your Family from the Advancing Menace." Similar folders were prepared by the State Veterinary Medical Association and the Department of Agriculture. An active radio publicity program was developed with broadcasts over four stations and an exhibit was set up at the State Fair as well as at other farm events. Joint committees coöperated with farm organizations, home demonstration leaders, 4-H Clubs, rural physicians and veterinarians, future farmers, and county health officials.

PERSONALS

WILLIAM H. ADOLPH, who has been serving as Professor of Biochemistry and Acting President of Yenching University in Peiping, China, has been appointed Professor of Biochemistry at the Peiping Union Medical College.

H. V. BARRETT, M.D.,† has resigned as Director of the Montgomery County (Kansas) Health Department to become Assistant Health Officer and Epidemiologist with the Topeka City-Shawnee County Health Department.

REAR ADMIRAL THOMAS CARLYLE ANDERSON, M.C., U.S.N., is on indefinite loan from the Navy to be in charge of a unit dealing with medical and related man power in the Medical Division of the National Security Resources Board.

ALASKA

ARNE BULKELEY, LILY HAGERMAN,* and MARIAN OYSTER, have been added to the nursing staff of the Alaska Department of Health, to serve respectively in the Wrangell office, as Nursing Educational Director in Juneau, and in Anchorage. Miss Bulkeley was most recently a county public health nurse in Georgia and has Army Nurse Corps and New York City Visiting Nurse Service experience. Miss Hagerman has been for 5 years Nursing Consultant and Nurse Consultant in Mental Hygiene with the U. S. Public Health Service and for 5 years previously Director of Public Health Nursing in the Utah State Health Department. Miss Oyster has just received her B.S. degree from Western Reserve University with a Major in public health nursing.

GEORGE F. CAMPANA, M.D.,* formerly State Health Officer of North Dakota and more recently in charge of communicable disease control work of the New Hampshire State Department of Health, has been appointed Worcester district health officer for the State Department of Health, Mass. He succeeds PAUL RICHMOND, M.D.,† who resigned to head the student health service at Tufts College, Medford, Mass.

LEWIS CLARK, D.D.S., has resigned as Dental Health Director, Florida State Board of Health, to enter private practice in Winter Haven, Fla.

* Fellow A.P.H.A.
† Member A.P.H.A.

ANGIE CONNOR, M.D., is the new Clinical Pediatrician in the Bureau of Maternal and Child Health and Crippled Children, Hawaii Health Department. Dr. Connor served with the U. S. Army for over 2 years and was recently associated with the Children's Heart Association in Cincinnati, Ohio.

CLARA E. COUNCELL, PH.D.,* has been named head of a new unit in the Children's Bureau, Washington, D. C., which will be a clearinghouse for information on medical and other types of research in the field of child health and welfare.

JAMES M. CUNNINGHAM, M.D.,† Director of the Connecticut State Health Department's Bureau of Mental Hygiene since 1935, on August 1 became Director of the Detroit Children's center, recently created by a merger of the Wayne County Child Guidance Clinic and the Children's Center of the Children's Fund of Michigan. It is to render clinical service and serve as a training and research center for psychiatric social work students interned in clinical psychology and for fellows in child psychiatry.

WARREN F. DRAPER, M.D.,* formerly Deputy Surgeon General, U. S. Public Health Service, and most recently on the staff of the American National Red Cross, Washington, has been appointed executive officer of the Medical and Hospitalization Service of the Welfare and Retirement Fund, United Mine Workers of America, 907 15th Street, N. W., Washington 5, D. C.

BION, R. EAST, D.D.S.,* who has been Professor of Dentistry at Columbia University, New York, has been appointed Chief of the Veterans Administration Dental Services effective August 4.

FRED T. FOARD, M.D.,* who has served as Director of the U. S. Public Health Service District 6 in Puerto Rico and the Virgin Islands, has been appointed Director of Health of the Bureau of Indian Affairs, Washington, D. C., effective in September.

RUTH FREEMAN, R.N.,* has been granted a 3 months' leave of absence from her work as Administrator of Nursing Services, American National Red Cross, to head the nursing section of the medical Branch, National Security Resources Board.

JOHN T. FULTON, D.D.S.,* was appointed as the new president of the American Association of Public Health Dentists. He is dental adviser of the Children's Bureau, Federal Security Agency, Washington, D. C.

EDMUND C. GARTHE,* has been appointed to head the Land and Air Carrier Section of the Sanitary Engineering Division of the Public Health Service, Washington, D. C., succeeding H. NORMAN OLD,† who has been assigned to the Bureau of Medical Services. Mr. Garthe has been with the Public Health Service since 1936, beginning as Junior Sanitary Engineer. In 1944 he became District Engineer in the New York District and in 1945 District Engineer of the Chicago District.

E. T. GERTSON, M.D., Atwood, Kan., has been appointed Health Officer of Rawlins County, succeeding JOHN C. CONROY, M.D., also of Atwood.

ALEXANDER G. GILLIAM, M.D.,* has been appointed head of the Epidemiology Section of the Cancer Control Branch, National Cancer Institute, Washington, D. C. Joining the Public Health Service in July, 1934, Dr. Gilliam has devoted his full-time services to epidemiological work in the United States and abroad. For 8 years he worked at the National Institute of Health on epidemiology of

* Fellow A.P.H.A.
† Member A.P.H.A.

poliomyelitis, diphtheria, mumps, and other infectious diseases. As the first epidemiologist of American Typhus Commission, he conducted typhus fever surveys among U. S. troops in Egypt, Tripoli, India, China, and Burma, for which he was awarded the Typhus Commission medal. For the last 2 years, Dr. Gilliam has conducted field investigations, laboratory and statistical studies on poliomyelitis, at the University of Michigan School of Public Health, teaching also in the University Department of Epidemiology.

O. R. GREGG, M.D.,† was transferred from his position as Director of Choctaw-McCurtain Counties Health Department in Oklahoma to the same position in Cleveland County.

FLORIDA

JAMES B. HALL, M.D., former Director, Cancer Control Division, Florida State Board of Health, is studying for his master's degree in public health at the University of California; ELIZABETH REED,† Acting Director, Health Information, for a bachelor of science degree in supervision in public health nursing at Teachers College, Columbia University, New York City; JOSEPH M. BOSTOWISH, JR., M.D., Alachua County Health Department, for his master's degree in public health at Johns Hopkins; JOHN WAKEFIELD,† sanitary engineer is doing graduate work in sanitary engineering at Harvard University; ANGELINE WARD, nurse, Escambia County Health Department is studying public health administration at the University of North Carolina; IRENE FITZGERALD, nurse, Manatee County Health Department, is studying public health nursing at the University of Colorado.

REBA F. HARRIS,* has accepted the position of Chief of the Public Health Education Unit, Ohio Department of Health, Columbus, effective August 1.

R. H. HAZEMANN, M.D., M.P.H.,† Director of the Department of Health of the Seine and Oise, Versailles, France, has been elected Officer of the Legion of Honor.

HAROLD R. HENNESSY, M.D.,* who has been associated with the American Medical Association's Council on Industrial Health since February, 1946, has been appointed to the newly-created office of Secretary of the Council on National Emergency Medical Service of the Association. JAMES C. SARGENT, M.D., Milwaukee, Wis., is chairman of the council, which was formed in 1947 to coördinate medical efforts associated with a national emergency. Dr. Hennessey, who received his M.D. degree from the University of Minnesota, held various assignments during the war years, his last being that of head of the Public Health Section in the Office of the Surgeon, Fifteenth U. S. Army. He received several military decorations, including the Order of Orange-Nassau Degree of Officer with Swords from the Netherlands government.

A. PARKER HITCHENS, M.D.,* who retired in May as Health Officer of Wilmington, Dela., has been appointed Director of the Bureau of Laboratories of the Pennsylvania State Department of Health, Philadelphia succeeding CLAUDE BROWN, M.D.,* retired.

M. C. IGLOE, M.D., M.P.H.,† who has been serving with the Veterans Administration in Chicago, has resigned to accept the position of Chief District Health Officer with the Chicago Department of Health. He will be in charge of the First District Health Center, Chicago, including a population of about 175,000, which will be used as a teaching center for the students of the medical college of the University of Illinois.

HOLLIS S. INGRAHAM, M.D.,* Director of the Bureau of Communicable Dis-

ease Control, has been appointed as a Deputy Commissioner of the New York State Department of Health, effective August 1.

WILSON W. KNOWLTON, M.D.,† has been appointed Superintendent of Westfield State Sanatorium at Westfield, Mass., the cancer-tuberculosis hospital operated by the State Department of Health. He was formerly Assistant Director of the State Division of Tuberculosis, and succeeds DONALD A. MARTIN, M.D., who resigned to accept the superintendency of the Plymouth County Sanatorium at South Hanson.

ROBERT F. KORNS, M.D.,* has been promoted from Assistant Director, a position he has held since 1945, to Director of the Bureau of Communicable Disease Control of the New York State Department of Health, Albany. In the department since 1939, he has served both as assistant district state health officer and as epidemiologist in the Division of Communicable Diseases.

GEORGE KRAUS, M.D.,† was appointed the first full-time Health Officer for the Town of Fairfield, Conn., effective July 1, 1948, thus increasing the number of full-time local health officer positions in Connecticut. In the Army Medical Corps from 1946 to 1948, Dr. Kraus's duties were largely public health in character. He plans to enter Yale University, Department of Public Health, as a candidate for a graduate degree in public health.

VINCENT B. LAMOUREUX † is in charge of the sanitary engineering aspects of national security, having been loaned by the Public Health Service to the Medical Division, National Security Resources Board.

H. WALLACE LANE, M.D., has been appointed Director and Health Officer of the Butler County (Kansas) Health Department.

EDWARD C. LOVE, JR., M.D., has been appointed Health Officer of the Gadsden, Liberty, and Calhoun Counties Health Department with headquarters at Quincy, Fla.

RICHARD P. MCKNIGHT, M.D., has been appointed Director of the new Division of Hospitals in the Massachusetts State Department of Health. Since 1942 he has headed the Bureau of Hospital Inspection in the department.

BERTRAM E. MARKS, M.D.,† was appointed Health Officer of Middletown, Conn., effective July 1, 1948. After 5 years of service, Dr. Marks retired from the Army Medical Corps in 1946, with the rank of lieutenant-colonel. He then did graduate study in hospital and health administration at Bellevue Hospital and in public health at Columbia University.

ALBERT S. MCCOWN, M.D., Dr.P.H.* has been named Director of the Bureau of Communicable Disease Control, Virginia State Health Department, to succeed W. A. BROWNE, M.D.,* resigned.

PEARL MCIVER,* President of the American Nurses' Association and Chief of the Office of Public Health Nursing, U. S. Public Health Service, attended a biennial meeting in London of the Board of Directors of the International Council of Nurses, September 16 to 21, serving as official United States delegate, representing 166,000 registered professional nurses in the American Nurses' Association. Miss McIver was joined in London by KATHARINE J. DENSFORD, Director of the University of Minnesota School of Nursing and second vice president of the International Council, and ELLA BEST, executive Secretary of the ANA, who served as an official observer at the International Council sessions.

JULIE E. MIALE, R.N., has resigned

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after 3 years as Associate, Program Development Service, National Tuberculosis Association. She is the author of the NTA pamphlet, *Tuberculosis—Industrial Nursing and Mass Radiography,* published in 1946. FRANCES W. GREENE,† Associate, Health Education Service, National Tuberculosis Association, has resigned to join the Texas Tuberculosis Association.

CHARLES O. PARKER, JR., M.D., has been appointed Health Officer of Lake County (Florida) Health Department with headquarters at Tavares, Fla. He succeeds R. J. DALTON, M.D.,† resigned.

RUTH PARMELEE, M.D., M.P.H.,* after 5 years' work during the war in the Near East and Greece in medical relief, has returned to Greece as Health Adviser for Pierce College, Elliniko (Glyphada), Greece.

W. W. PETER, M.D., DR.P.H.,* formerly Chief, Training Section, Health and Sanitation Division, Institute of Inter-American Affairs, Washington, D. C., has been named Chief, Medical Section, succeeding CLARK H. YEAGER, M.D., DR.P.H.,* following a merging of the two sections into one.

JOHN J. POUTAS, M.D.,* Assistant Medical Director and Chief of Professional Services in the New England office of the Veterans Administration, was recently appointed as Medical Director of Lever Brothers Company, Cambridge, Mass. Dr. Poutas will direct the health and medical services, including clinics in all plants, for the 6,000 employees of the company.

BERYL J. ROBERTS,† has resigned as Director of Health Education of the Massachusetts Tuberculosis League, Inc. She has accepted a part-time post as Associate in Health Education in the Department of Public Health Practice, Harvard School of Public Health, and will head the health education work of the Massachusetts division of the American Cancer Society.

LOUIS SCHWARTZ, M.D.,* formerly Chief, Section of Dermatology, U. S. Public Health Service, has opened an office for private practice in Occupational and Other Contact Dermatoses in Washington, D. C.

RICHARD E. SHOPE, M.D., currently on the staff of the Rockefeller Institute for Medical Research, in the spring of 1949 will become Associate Director of the Merck Institute for Therapeutic Research, Rahway, N. J. At that time a new building will have been completed providing facilities for Dr. Shope to study animal pathology.

GUSTAV I. STEFFEN, PH.D.,† has been named as Director of the Bureau of Laboratories, New York City Department of Health to succeed RALPH MUCKENFUSS, M.D.,* appointed First Deputy Commissioner. Dr. Steffen has been Assistant Director of the Bureau since 1940.

DONALD E. UPP, M.D., is the newly appointed Health Officer of Cowley County, Kansas. He is replacing THOMAS R. HOOD, M.D.,† who has been granted educational leave to study for his master's degree in public health at Harvard University.

GRAHAM WALTON, PH.D.,† has been transferred from the Bureau of Prisons, U. S. Department of Justice, Washington, D. C., to the Water & Sanitation Investigations of the U. S. Public Health Service, where his headquarters will be in Cincinnati, Ohio.

ADOLPH WEINZIRL, M.D.,* Professor and Head of the Department of Public Health and Preventive Medicine at the University of Oregon Medical School, Portland, has retired as Director of the E. C. Brown Trust, Portland, which was concerned with social hygiene, assuming the position as consultant. He has been succeeded by CURTIS AVERY who assumed his new duties September 1.

ALBERTA B. WILSON, R.N.,* has resigned as Assistant Director, National Organization for Public Health Nursing, New York City, to become Assistant Professor of Nursing, University of Minnesota School of Public Health, Minneapolis.

YAN TIM WONG, M.D., has been appointed Assistant Chief and Child Psychiatrist with the Hawaii Department of Health.

LEWIS A. YOUNG* has been appointed Director of the Division of Sanitation, Colorado Department of Public Health. For the past 6 years Mr. Young has been Chief Engineer and Associate Chief of the Colombian Field Party, Division of Health and Sanitation, Institute of Inter-American Affairs.

Deaths

FRANCIS PARKMAN DENNY, M.D.,* retired physician and Brookline, Massachusetts Health Officer for more than 40 years, died September 6 at the age of 79. Dr. Denny was a Charter Fellow and a 40 year member of the A.P.H.A. (Health Officers Section).

ANDREW G. DUMEZ, PH.D.,† Dean of the School of Pharmacy, University of Maryland, and Secretary of the American Council on Pharmaceutical Education, died suddenly on September 27 at the age of 64 (Unaffiliated).

PHILIP K. GILMAN, M.D., Clinical Professor Emeritus of Surgery at Stanford University Medical School, and chief of the Bureau of Hospitals of the State Department of Public Health, died at his home in San Anselmo, Calif., on September 7 at the age of 69.

THOMAS J. LEBLANC,† Head of the Department of Preventive Medicine at the University of Cincinnati, died September 9 after an illness of several months, at the age of 54. Dr. LeBlanc was formerly a research fellow with the Rockefeller Institute and a special staff member of the Rockefeller Foundation. He also had been statistician with the U. S. Public Health Service in Washington (Unaffiliated).

DWIGHT MILTON LEWIS, M.D.,* Director of Communicable Diseases in the New Haven, Conn., City Health Department, until his retirement 2 years ago, died on August 31 in New Haven Hospital at the age of 73 (Health Officers Section).

JAMES ALEXANDER MILLER, M.D., one of the founders of the National Tuberculosis Association and NTA president 1921–1922, died on July 29, after a brief illness.

BERTHOLD S. POLLAK, M.D.,† Medical Director of the Berthold S. Pollak Hospital for Chest Diseases at Jersey City, died June 27 after a brief illness. He was 75 years old (Unaffiliated).

THOMAS T. SHEPPARD, M.D.,† Chief, Medical Staff, Western Pennsylvania Hospital, Pittsburgh. Elected Member 1946 (Vital Statistics Section).

B. H. VOLLERTSEN, M.D.,† Medical Department, E. I. du Pont de Nemours & Co., Penns Grove, N. J. Elected Member 1937 (Industrial Hygiene Section).

JOHN HAMILTON WATKINS, PH.D.,* Associate Professor of Public Health at Yale University, died suddenly on September 24 at the age of 47. Professor Watkins, an expert in the field of vital statistics and a Lieutenant Colonel in World War II, was an instructor in Bacteriology at Iowa from 1925 to 1927, and was employed by the sanitary district of Chicago from 1927 to 1928. He went to Yale as an assistant in public health in 1928 and received his Ph.D. degree in 1931. In 1936 he was made an assistant professor and in 1941 an associate professor (Vital Statistics Section).

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